S. HRG. 98-970

FOOD SAFETY AND THE EFFECTS OF PRESENT LAW, 1984

HEARING

BEFORE THE

COMMITTEE ON LABOR AND HUMAN RESOURCES UNITED STATES SENATE

NINETY-EIGHTH CONGRESS

SECOND SESSION

ON

EXAMINATION OF PRESENT FOOD SAFETY LAWS AS THEY MAY BE AFFECTED BY MODERN DAY SCIENCE AND TECHNOLOGY

DES MOINES, IA
JULY 2, 1984

Printed for the use of the Committee on Labor and Human Resources

U.S. GOVERNMENT PRINTING OFFICE
37-406 O WASHINGTON : 1984

S541-63

COMMITTEE ON LABOR AND HUMAN RESOURCES

ORRIN G. HATCH, Utah, *Chairman*

ROBERT T. STAFFORD, Vermont
DAN QUAYLE, Indiana
DON NICKLES, Oklahoma
JEREMIAH DENTON, Alabama
LOWELL P. WEICKER, JR., Connecticut
CHARLES E. GRASSLEY, Iowa
JOHN P. EAST, North Carolina
PAULA HAWKINS, Florida
STROM THURMOND, South Carolina

EDWARD M. KENNEDY, Massachusetts
JENNINGS RANDOLPH, West Virginia
CLAIBORNE PELL, Rhode Island
THOMAS F. EAGLETON, Missouri
DONALD W. RIEGLE, JR., Michigan
HOWARD M. METZENBAUM, Ohio
SPARK M. MATSUNAGA, Hawaii
CHRISTOPHER J. DODD, Connecticut

RONALD F. DOCKSAI, *Staff Director*
KATHRYN O'L. HIGGINS, *Minority Staff Director*

CONTENTS

STATEMENTS

MONDAY, JULY 2, 1984

	Page
Bjustrom, Chuck, executive committee member, National Pork Producers Council, Des Moines, IA	74
Prepared statement	77
Croghan, Peter T., president, Iowa Farmers Union	69
Daugherty, Steve, Iowa Corn Growers Association	70
King, Marshall, district director, Iowa Cattlemen's Association	83
Kleckner, Dean, president, Iowa Farm Bureau Federation	67
Kozishek, Dave, Iowa director, National Farmers Organization	66
Lounsberry, Robert H., secretary of agriculture, State of Iowa	5
Meyers, Prof. William H., professor of economics, Iowa State University, accompanied by Prof. Gene Futrell, professor and extension economist, Iowa State University; Prof. Daniel Otto, professor and extension economist, Iowa State University and Prof. Joseph G. Sebranek, professor of animal science and technology, Iowa State University	10
Prepared statement	23
Oeth, Thomas F., director of technical services, FDL Foods, Inc	64
Ryan, James, Jr., Iowa Pork Producers Association	85
Stafford, John M., president, the Pillsbury Co., prepared statement	9
Turnmire, Dale, executive secretary, Iowa Association of Meat Processors and chairman, Meat Inspection and Government Affairs Committee, American Association of Meat Processors	59

FOOD SAFETY AND THE EFFECTS OF PRESENT LAW

MONDAY, JULY 2, 1984

U.S. SENATE,
COMMITTEE ON LABOR AND HUMAN RESOURCES,
Des Moines, IA.

The committee met, pursuant to notice, at 2:10 p.m., in the auditorium, Wallace Building, Ninth Street and Grand Avenue, Des Moines, IA, Senator Charles E. Grassley (acting chairman of the committee) presiding.

Present: Senator Grassley.

OPENING STATEMENT OF SENATOR GRASSLEY

Senator GRASSLEY. If I could, I would like to start the meeting. Because of my fault, we're starting 10 minutes late.

I appreciate meeting most of the witnesses while I was at the door. You were all very timely and I want to thank you for that. I hope that I can keep everything on schedule.

I want to say that I appreciate very much the attendance of witnesses, people from the media, as well as citizenry, who are present to consider this very important subject that we're about to discuss.

As most of you know, this hearing is being held under the auspices of a committee of the Senate of which I'm a member, the Labor and Human Resources Committee. This is a field hearing on food safety and the effects of present law.

I want to express my appreciation for the interest and participation exhibited here today by the representatives of a diverse cross-section of Iowa's agricultural sector to discuss a matter of great importance to all Iowans—food safety, laws governing food safety, the impact that these laws might have on Iowans, and the need for the modernization of our present laws.

As an agricultural State, Iowa has much at stake in this debate over the direction of our food safety laws. Everyone here today has taken a keen interest in this issue, and have played an active, key role in defending the interests of our farmers, consumers, processors, and employees from the application of archaic, rigid laws that have lost pace with modern science.

Of particular concern, of course, was the nitrite fiasco of the late 1970's. Had it not been for the tremendous united efforts from the people representing the agriculture sector, the defective study that suggested nitrites cause cancer would have never been brought under question, it would not have been reviewed by the top scientists such as those at Iowa State University and those with the

Council for Agricultural Science and Technology, and would have been allowed to trigger the application of rigid food safety law that would have left consumers exposed to deadly botulism and left Iowa's economy, and that of the rest of agriculture, in destruction. Understandably, the nitrite fiasco is one of the best examples as to why a more rational and modern food safety law must be enacted.

As many of you know, I was one of a number of Congressmen and Senators during the nitrite fiasco to fight for reason, review, and restraint. As a member of the House Agriculture Committee, I was in a key position to help steer the controversy away from results that would mean certain disaster for Iowa. Unfortunately, necessary changes in our food safety laws have not yet occurred. There are a number of possible reasons for this, not the least of which is the fact that this is an extremely sensitive issue. Part of the reason, however, is that many in Congress do not share the perspective of those whose lives have been unnecessarily disrupted because of misdirected food safety scares.

Last year, when I was presented the opportunity to become a member of the Senate Labor and Human Resources Committee, for the first time since being in the Senate—and this committee has jurisdiction over food safety laws in the Senate—I decided to join that committee in hopes of helping pass new food safety laws that would protect agriculture and consumers from outdated law.

In fact, during June 1983, my committee held 3 days of extensive hearings on our Nation's food safety laws to study how recent scientific and technological developments have affected food safety regulation and determine whether existing law should be revised in order to accommodate the advances in science and technology. These hearings drew from the expertise of prestigious scientists, past food safety, Government administrators, representatives of the food producers, and many others. Clearly, a broad consensus developed among the experts that our food safety laws must be improved to take into account the realities of modern science and technology.

These hearings then led to the introduction of S. 1938, which is called the Food Safety Modernization Act of 1983. This bill defines for the first time the important concept of safety that sets a high standard, retains the requirement that food processors prove safety to the FDA's satisfaction, and permits distinctions between remote, inconsequential risks with those that warrant attention. It also allows phaseout authority, peer review by scientists and a number of other important improvements.

Notwithstanding this impeccable record for changes in our food safety laws based upon scientific evidence and administrative prudence, there still seems to be significant reluctance among my congressional colleagues to support these essential changes.

As I stated earlier, part of the reason is that many have not shared in the chaotic experiences that can result from episodes such as the nitrite fiasco. Consequently, I realized a need to bring the real world back to the ivory towers of Washington, DC. I had intended to hold a field hearing in Iowa last fall, but those plans were sidetracked because of the drought situation at that particular time that required so much of our attention Our energies were necessarily diverted. With only weeks left in the 98th Congress,

however, I believe it is important to move ahead with this field hearing, and hence the reason why we're here today in Des Moines, IA.

I want my colleagues in Washington to understand the perspective of Iowans on this issue. I want them to understand that Iowans, whether farmers, processing employees, or those not involved with the agriculture economy, are concerned about food safety. We Iowans consume the fruits of our labors, so if there is a problem we will want to be the first to know. But as Iowans, we understand that our livelihood greatly depends upon agriculture and the consumer confidence in those same agricultural products. This is why I have asked Iowa State University to provide us today with an economic impact analysis of what a nitrite ban would have done to Iowa. I have also asked other participants to include with their comments as to why they support changes in food safety laws to address the issue of the impact the nitrite fiasco had on them and what a ban might have produced.

The nitrite fiasco serves as a good case study which underscores the need for food safety law revision. Based upon a faulty study, combined with inflexible laws and regulators, the Government came close—too close—to banning a product not only necessary to protect consumers from botulism, but was key to the continued economic viability of agriculture. Had nitrites been banned, our consumers throughout the Nation would have been exposed to an increase in botulism, while our hog industry would have been destroyed, livestock and poultry crippled, farm employment would have fallen sharply, meat processors, distributors, and retail businesses would have been devastated; in short, agriculture would have been sent reeling.

Fortunately, nitrites were found not to be carcinogenic, but only after tremendous efforts by producers, processors, scientists, and congressional leaders. In the meantime, consumer confidence in the wholesomeness of cured meats plummeted. It is no coincidence that studies have shown that since 1979, people have reported eating 21 percent less bacon and sausage, 16 percent less hotdogs and luncheon meats, and 16 percent less beef.

What is so ironic, as well as frustrating, about present food safety laws are that they may ban an element that occurs far more abundantly in the natural form. About 87 percent of nitrites come from vegetables, while other sources include milk, fruit juices, baking goods, and we could name many others. These nitrates become nitrites, of course, when consumed. Consequently, cured meats only contribute a minor amount of dietary nitrites—about 9 percent in all.

Had nitrites been found to be carcinogenic, the additive nitrite for cured meat would have been banned, but that 81 percent which occurs naturally would have gone untouched. Consumers would be no more safe; they would only think they were. Some consumer groups suggested that if nitrites in curing were banned, people would be safe from nitrites. That just is not the case.

Another irony of this debate is that the consumer activists recommend that people eat a lot of dark green, leafy vegetables, the same vegetables that contain all those nitrates that turn into nitrites when consumed. The explanation provided by these advo-

cates for this apparent discrepancy is that these vegetables also contain vitamin C, which may inhibit cancer. These same folks, however, will not allow us to similarly take into account the redeeming value of nitrites as protection against deadly botulism.

As you plainly see, the agriculture sector is faced not only with misleading, unrealistic food safety regulation, but also they must continue to fight a double standard.

Frankly, it concerns me that some of these activists will not face up to the overwhelming scientific, expert opinion that calls for food safety modernization. It concerns me that they led an all-out attack on the agriculture sector in its quest to ban nitrites, and then turned around in hearings last summer—those very same hearings that this committee had in Washington, DC—to dismiss the whole episode as—and I quote them—a "mere hypothetical." And it disturbs me when someone who is supposed to represent the interests of processing employees, ignores the massive layoffs that would have occurred of the employees he is supposed to represent, and instead calls for even more rigid food safety laws.

Washington needs to hear from the real world, and that's why this hearing is here in Des Moines, IA.

Without further delay, I would like to proceed.

I would, first of all, like to begin with the testimony of Iowa's very competent and famous Secretary of Agriculture, and then turn to the presentations of those from Iowa State University. So I would call Robert Lounsberry, and while he's coming to the table here, I would like to suggest that after Iowa State University, then we'll have two or three panels of producer groups and organizations.

Maybe I should make some administrative comments at this point. Everybody's statement will be printed in the record. For those of you who feel that perhaps you have testimony that should not be read in toto, I want to assure you that that testimony will be printed. So the extent to which you summarize, that will help us, although it isn't absolutely essential. But if some of you would like to summarize, those of you who are later on in the program, that would give you an opportunity maybe to underscore those portions of your testimony that would be most important in anticipation of questions that we'll be asking.

Additionally, the reporter here, the official reporter for the Senate committee, would like to have a copy of each witness' testimony, so if you do have extra copies—I know there are some out on the table, but if you have some with you, if you'd leave them at his table we'd appreciate that.

I would also like to say that the record will be left open to those people who were not invited to testify, who are moved to supplement or to counteract, or to anybody who feels they have an expertise in this area. And for any one of you who would like to have written testimony submitted, it will be printed in the record as if it were orally given. I want to make that possibility available, because, as you know, we did invite certain people to testify, and we don't, in coming out here to the grassroots to get additional information, want to necessarily exclude people who want their opinions considered by the committee. And whether written or oral, it will still be printed in the record.

So the record will be left open for 15 days for any of the witnesses to correct their statements, add to, or for any people who weren't invited to testify.

I'd like to also make note for the record, Ken Cunningham, of my personal staff, is with me, and he does all of my agricultural work as a researcher in Washington, DC. So those of you who want to contact me personally in Washington, and aren't able to contact me for various reasons, I would urge you, whether you contact me or not, to also talk to Ken Cunningham of my staff, because he needs to know your point of view as well as I do, because he and I are in constant contact on these very important issues affecting agriculture.

Bob, I don't think you need any further introduction. There's not a person in this room who doesn't know you. But I want to thank you for taking time out of your busy schedule, and I know how involved you've been, particularly with the flood situation as it's been in Iowa over these last several weeks.

STATEMENT OF ROBERT H. LOUNSBERRY, SECRETARY OF AGRICULTURE, STATE OF IOWA

Mr. LOUNSBERRY. Thank you very much, Senator Grassley. It is a privilege for me to be able to come before you today. For the last 15 years we've been involved in many advisory committees, with FEPCA, the Federal Environmental Pesticide Control Act, and later PIPRA, and during all the amending periods we've tried to be active. It is our responsibility in the State of Iowa to implement and administer the Pesticide Act and the Fertilizer Act and those that deal with some of these things that we're discussing in Senate File 1938.

I am pleased to add my support to Senate bill 1938. The primary focus therein would be to update the Food, Drug and Cosmetic Act concerning the regulation of food additives by the Food and Drug Administration, the [FDA]. Additionally, the Federal Meat Inspection Act, the Poultry Products Inspection Act, and the Egg Products Inspection Act would be secondarily involved.

In my brief presentation I will address, individually, the major sections of the proposed bill which is of great concern to our State, because Iowa is a leading food producer. Iowa produces 19 percent of the Nation's corn, 14 percent of its soybeans, 27 percent of its hogs and 11 percent of Fed cattle marketed. Prudent regulation of our Nation's food supply is important and necessary, but overregulation of the food chain is frustrating, time consuming, and costly to both the farmer and consumer.

Under section 101, the definition of safe as meaning reasonable certainty is simple recognition of the fact that few, if any, substances ingested by humans are 100 percent safe. Yet, as defined, the word "safe" would delineate the difference between substances which pose a substantial risk as being in a different category from those substances which do not. In my opinion, the public health would be well served with the new definition of the word "safe."

37-406 O - 84 - 2

SECTION 102, PHASE-OUT AUTHORITY

This section would allow the phaseout instead of an immediate rejection of a substance if the FDA concludes "* * * no unreasonable risk to public health will result from such continual use." The phaseout approach would be possible only if a substitute substance is not immediately available, and under no condition would continue for over 10 years. In these instances, FDA would make a comparative risk assessment. They then could decide whether the elimination of the substance would be a greater risk to public health than the risk from continued use of the substance for a specified period of time. I believe the FDA should have this authority.

Section 103 refers to the Delaney clause. I have long considered the so-called Delaney clause of the Federal Food, Drug and Cosmetic Act to be impractical. During the genesis of its application, normal laboratory measuring capabilities were limited to parts per million. Subsequently, parts per billion became commonplace, and now we hear laboratory reports in parts per trillion, as our scientific knowledge, techniques, and equipment continue to improve.

The bottom line here is not if a trace of a proven or suspected carcinogenic is present but, more importantly, what is the real risk assessment of cancer in humans as it relates to the "* * * substance's mechanisms of action or the manner in which the substance is metabolized. * * *"

The proposed act would eliminate the Delaney clause zero tolerance interpretation, and substitute wording that would be realistic with today's science, and simultaneously provide good protection for the public health.

SECTION 104, CONSIDERATION OF HEALTH BENEFITS

I believe the Food and Drug Administration should have the authority which allows the use of food additives if there is no practical substitute, and if the risks to human health are offset by substantial benefits to human health.

SECTION 105, SCIENTIFIC PEER REVIEW

This section stipulates that the FDA receive "* * * advice from a committee of scientifically qualified individuals * * * not in the full-time employment of the United States Government * * *" Seeking advice from sectors beyond the direct influence of the Federal Government is meritorious. Appropriately, this would be done only when "* * * there is a substantial scientific issue * * *" involved.

I recognize that the FDA does occasionally seek outside independent scientific research data, but I believe, by codifying this idea, the FDA will have an opportunity to increase the integrity of its findings and reach a new positive level of believability.

Amendments to the Poultry Inspection Act, the Federal Meat Inspection Act, and the Egg Products Inspection Act, section 107. Amending these acts simply places them into conformity with the Federal Food, Drug and Cosmetic Act changes relative to the

Phase-Out Authority and Scientific Peer Review, and I am in favor of it.

My testimony generally has been directed toward concerns and interests in public health. Not mentioned heretofore, but also extremely important, is the economic perspective. This sphere came close to crumbling in 1979 for pork producers, when the nitrate and nitrite scare was in full blossom, as you already mentioned in your opening remarks, Senator. Iowa produces over one-fourth of this Nation's pork supply, so the banning of these meat additives would have been costly for the pork industry. In fact, at that time, it was estimated the immediate cost to Iowa pork producers would have been over $250 million. Furthermore, without nitrites in bacon and cured pork, the danger of botulism is greatly enhanced. This is, indeed, a classic example of a great benefit to the public and the industry, with only slight adverse ramifications. In this instance, the risk/benefit scale weighs mightily on the benefit side.

Another example, the banning of DES, Diethylstilbestrol, for use by livestock farmers in the production of sheep and cattle, has also been very costly. Several years ago it was estimated that the savings in feed from the use of DES was $500 million per year, and that that savings was a direct savings to American consumers.

More recently, an unrealistic one part per billion tolerance level of ethylene dibromide in food was proposed by the Florida Department of Agriculture. The ensuing alarmist media stories about EDB were frightening for consumers and very disconcerting for the agricultural sector. After several weeks of public strain, a realistic tolerance was established through Federal standards, and the issue virtually disappeared. Yet, who knows the cost to the producers, the food manufacturers and the consumers because of the EDB scare and other scares of this type which often prove to be unfounded in the end.

In conclusion, I believe it is imperative that we assess potential problems in the food chain on a risk/benefit basis. And in making final decisions relative to substances affecting our food supply, both concern for the public health and economic data as it relates to an affected industry and to the public must be considered.

Let me go on record, then, as fully supporting Senate File 1938, and urge immediate passage in the U.S. Senate of this bill. Our Nation has the highest standard of food safety in the world, and this legislation will assure the people of this country a continual supply of clean, high quality and nutritious food, at the least possible cost to the producer.

I would like to request that a letter of April 16, 1984, addressed to Governor Branstad from a processing company that was involved in recalling some of the products through some of our efforts in the Department of Agriculture and efforts in our laboratory facilities. It states to Governor Branstad very adequately how they planned and did work with us in recalling these products, and I'd like to introduce it as a matter of record.

Senator GRASSLEY. Yes. It will be a matter of record. I do have maybe a general question I'd like to ask you before you leave.

Besides being concerned about agriculture for the State of Iowa and a spokesman for agriculture in the State of Iowa, a great deal of your responsibility is consumer protection as well. So I'd like to

ask, upon reflection now, 5 years later, did we, meaning those of us in Congress as well as people in agriculture, did we overreact to the nitrite ban 5 years ago?

Mr. LOUNSBERRY. I think in some instances, yes. And I could make a total statement that I think many of the Members of Congress did overreact, and I think that time has proven that they did overreact.

Senator GRASSLEY. Are you speaking of those of us who were concerned about the impact of a nitrate ban?

Mr. LOUNSBERRY. The reaction of those who were opposed to a talk of total ban on nitrates, no, I don't think you overreacted. I think the ones that we're talking about, the total ban, were overreacting.

Senator GRASSLEY. It was the latter group that I was speaking of.

You would still say that, based upon what we know now, 5 years later, the actions that we took to bring the ban to the attention of the public, to a great extent through Iowa State University, through follow-up study by the National Academy of Science, all those things that we did, was the right thing?

Secretary LOUNSBERRY. I think it was the right thing, and I think a few more years down the road it will be proven in some of these other spheres that I mentioned, like ethylene dibromide. I think it's already been brought forth in the scientific world that maybe there was an overreaction of those who wanted to establish almost unbelievable tolerances.

Senator GRASSLEY. From that standpoint, then, you're satisfied that what we thought would be an economic problem, still 5 years later the judgment we had, that of it being a problem for agriculture, a financial problem, would still stand?

Mr. LOUNSBERRY. Yes, indeed. The power of suggestion prevails after the fact sometimes, and I think this is true and it helped a great deal.

Senator GRASSLEY. And at that time we were concerned only with the banning of nitrites in a few products, bacon being the main one. And we've had evidence that the economic dislocation that would come as a result of that was just the tip of the iceberg. Do you still see that that way now 5 years later?

Mr. LOUNSBERRY. I do, yes, Senator. I certainly do.

Senator GRASSLEY. Thank you very much. I appreciate your testimony.

Mr. LOUNSBERRY. I'll give you a copy of that letter.

Senator GRASSLEY. Without objection, it will be inserted into the record at this point.

[The letter referred to follows:]

THE PILLSBURY COMPANY
PILLSBURY CENTER
MINNEAPOLIS MINNESOTA 55402

JOHN M. STAFFORD
PRESIDENT

612/330-8188

April 16, 1984

RECEIVED
JUN 25 1984
Dept. of Agriculture

The Honorable Terry Branstad
State Capitol
Des Moines, IA 50319

Dear Governor Branstad:

On February 24 this year, we advised you of The Pillsbury Company's position relative to ethylene dibromide (EDB). In that letter we guaranteed that all Pillsbury products manufactured after February 3, 1984, would meet federal guidelines of 150 parts per billion (ppb) on-the-shelf and 30 ppb ready-to-eat.

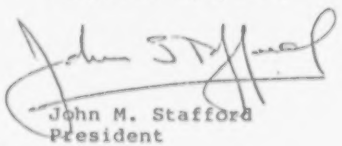
At the same time, we also committed to the removal of EDB residue from our food at the earliest possible date. Since then, Pillsbury has applied rigorous testing, technological advances and strict manufacturing practices to develop an accelerated schedule for eliminating EDB residues from all of our products.

While Pillsbury stands firmly behind its assurance that all products manufactured since February 3 meet the federally established guidelines, we further guarantee that all Pillsbury products manufactured after April 16, 1984, will contain EDB residues of less than 50 ppb on-the-shelf and 10 ppb ready-to-eat. In addition, through upcoming wheat harvests and our active testing and control programs for all incoming wheat, Pillsbury intends to have effectively eliminated EDB residues in all of its products by the fall of 1985.

We believe our products are completely safe. We also believe that the long-range goal of the food industry is the elimination of EDB from the country's grain-based foods. As in the past, we will continue to offer our cooperation and support to the Environmental Protection Agency (EPA), the Food and Drug Administration (FDA) and individual states. Our endorsement of the EPA and FDA involvement is based on the belief that pesticide residues in food are a national problem requiring a national solution.

For 115 years, The Pillsbury Company has dedicated itself to food safety. It is in this same spirit that Pillsbury has committed itself to accelerate the removal of EDB at the earliest possible date. If you or any of your state officials have questions or concerns regarding the EDB issue, we would appreciate the opportunity to be of assistance.

Respectfully yours,



John M. Stafford
President

JMS:tol

Senator GRASSLEY. It is now my pleasure to invite four people from the University of Iowa—I hope our number is right, and I hope the names I have are right—Gene Futrell, Daniel Otto, Joseph Sebranek, and William Meyers. Is that right?

Dr. MEYERS. Iowa State University.

Senator GRASSLEY. I'm sorry. I know you're from Iowa State University. Did I say University of Iowa? Well, that's a terrible sin. I'm sorry. Let me apologize. Now I'm right in the middle of it. I'm in real trouble.

Let me say, before you go on, so that the other people that are left to testify—we'll have Dale Turnmire testify as an individual. We'll have Thomas F. Oeth testify as an individual. Then we'll have a panel of four; the National Farmers Organization, the Iowa Farm Bureau Federation, Iowa Farmers Union, and the Iowa Corn Growers Association. Then after their testimony and questions, we'll have a panel of three, which will be the last panel, and at that point we'll have National Pork Producers Council, the Iowa Cattlemen's Association, and the Iowa Pork Producers Association.

Now also let me say, because of the intense research that Iowa State University had to do for us on some of the specific questions we asked them to testify on, we do suggest that they feel free to take more time than maybe we would allot to the other witnesses, so I hope you'll bear with us as we receive this testimony from Iowa State University.

Would you go in the order that you previously maybe had planned to go?

Dr. MEYERS. Yes, Senator.

STATEMENT OF PROF. WILLIAM H. MEYERS, PROFESSOR OF ECONOMICS, IOWA STATE UNIVERSITY, ACCOMPANIED BY PROF. GENE FUTRELL, PROFESSOR AND EXTENSION ECONOMIST, IOWA STATE UNIVERSITY; PROF. DANIEL OTTO, PROFESSOR AND EXTENSION ECONOMIST, IOWA STATE UNIVERSITY AND PROF. JOSEPH G. SEBRANEK, PROFESSOR OF ANIMAL SCIENCE AND FOOD TECHNOLOGY, IOWA STATE UNIVERSITY

Dr. MEYERS. I'll introduce the group and then we will go in the order of the topics that are mentioned on the third page of our tes-

timony, and summarize those several topics. And then that will complete our testimony.

So we won't be reading the whole report. We'll read parts of it and summarize other parts.

Senator GRASSLEY. Thank you very much.

Dr. MEYERS. Senator Grassley, we're pleased to be here, and I'd also like to mention that in this study we have collaborated with the University of Missouri at Columbia, which is associated with us under a newly established Food and Agricultural Policy Research Institute, which was recently established with funding from the U.S. Congress.

Part of the analysis that we conducted was conducted at Missouri and will be reported by us.

I would like to first say that the economic impacts become more difficult to assess as the size of the impact increases, and a shock as big as removing nitrite use in meats is so large that the results certainly lie outside anything that we have so far experienced or observed. This makes it very difficult to assess consumer, producer, and processor behavior under such conditions. For this reason, previous studies have focused only on the effect of removing nitrites in pork bellies and bacon, and we have tried here to extend that analysis to the question of a complete nitrite ban, and hope that this information will give us a better feel for how large the size of the impact might be.

So first of all, we have a summary of the background from Joe Sebranek, professor of animal science and food technology at Iowa State.

Dr. SEBRANEK. I will purposely keep my comments brief, since I'm addressing the background material which I'm sure many of you are already familiar with.

I think there's an increasing awareness on the part of consumers involving diet and good health, particularly in relation to carcinogens and cancer, such as the concerns that have developed concerning nitrites 5 or 6 years ago.

Part of that problem is developing because we have increased analytical capability and we have a biological understanding that has yet to catch up with that in terms of getting significance associated with parts per billion, parts per trillion concentrations in various compounds.

This, I think, highlights the need for some scientific judgment, an element of scientific judgment, in the food laws. Nowhere has this been more obvious than the case with nitrite in 1978. We had not seen a real problem with nitrite in the late seventies, though we'd had concern for a long time over the nitrosamines concentrations. But when the report in 1978 came out that nitrite alone might be a carcinogen, this induced a lot of renewed interest in this area.

The thing that struck us most in reviewing this work at Iowa State was the fact that the original researcher had reported that data as being only suggestive, in his own words; yet the FDA and the USDA, based on the rigidity and inflexibility of the current food laws, did propose steps toward initiating a ban. This incident really emphasizes the need for two things, one being peer review, which has already been mentioned. And I think when one consid-

ers the scientific world, one can appreciate peer review, because all scientists 'reputations are based on peer review. It seems that food laws should be based on at least equivalent kinds of evaluation. Second, because of the increased analytical capabilities we need an element of scientific judgment in interpreting those kinds of concentrations that we run into.

Nitrite is a very unique compound, and that's why we experienced a rather unique situation. There is not a substitute. The things it creates in cured meats are unique and special and can't be replaced by any other single substance. So we ran into a situation of perhaps unnecessarily alarming consumers, and coming very, very close to completely eliminating a very useful food additive, which could have had very significant economic consequences. This is why we feel that this economic analysis, which is the major thrust of this discussion, is important and relevant today.

Dr. MEYERS. Thank you.

I will mention very briefly the review that we did on past studies, which are three, that we looked at: one by CAST, which was already mentioned by the Senator; one by Purdue University and one by the USDA. They were all done between March and December of 1978. Because they used different assumptions about substitution possibilities, they did have different results, but they were fairly similar in terms of their impacts. We have a table in which these results are summarized.

The impacts on the farm sector, particularly the pork sector, were on the order of $700 to $800 million in losses for the first year, and the impacts on the processing sector were of the order of $1 to $1½ billion. Two of these studies, the CAST report and the USDA report, attempted to measure the loss to consumers as well, and those were in the order of $2 billion, which were even larger than the losses to producers.

Now, only one of these reports, that is, the USDA, looked at the impact over a period of time, which would allow the pork sector to respond to adjustments in production. That report we have reviewed here, and found that it underestimates the pork sector impact because it does not take into account the decline in consumer demand that would occur when bacon is no longer available. In other words, consumers are now consuming quite a bit of bacon. If you remove that product, there is a decline in demand for total pork products. And that decline was not taken into account in the USDA study, so we feel their study underestimates the impact on the pork sector. Therefore, we asked our colleagues at the University of Missouri to conduct a current study over a 5-year period that would look at these interactions, but it would be based on a more realistic assumption about consumer reaction to the loss of these products.

I would like to say again that these other studies all mentioned that they were not able to look at the all-nitrite case, because the magnitudes were so large that it was outside of the range of observable experience. So, later on we will attempt to extend the Missouri results to the total nitrite ban. Gene Futrell will present the analysis that was conducted at the University of Missouri.

Dr. FUTRELL. Senator, I'm going to report very briefly on the results of the study that Dr. Meyers has mentioned, the effect on the

pork sector of a ban on cured bacon production. This was done very recently by a group at the University of Missouri, as indicated, including Prof. Glen Grimes and Prof. Abner Womack. I was not directly involved in this research, but am primarily reporting on the results.

This study analyzes the effect on the pork sector of a ban on cured bacon production. It does not consider effects across other livestock markets—beef, for example, or on feed grains. The impacts will be discussed in a more recent analysis following my presentation, by Dr. Meyers.

An effort was also made in their study to try to appraise the impact on the current demand and price of hogs of the adverse publicity about bacon that we've had over the recent years. So there are two parts to this report. The first evaluates the 5-year impact of a ban on cured bacon production. This study was done by means of two 5-year simulations or projections that were developed, starting with 1983 and as projected on through 1987. The so-called baseline scenario would be one that assumed that the nitrite ban would not occur and that the pork industry would react as it has in the past in terms of production decisions, and so on, in the market.

The second scenario, then, imposed the ban on nitrite in bacon processing. There were two basic assumptions behind that scenario. One of those was that the percentage of pork bellies per hundredweight of hog is 11½ percent, which is the 82-83 average, and that this ratio would continue over the 5-year period. The second major assumption was that 90 percent of the bacon currently produced would be diverted to lard and pork trimmings, with the other 10 percent going to fresh bacon. Related to that was an assumption that the price of pork trimmings would decline by about 15 percent. The second assumption had the effect, in isolation, of lowering the value of the bellies and, in turn, the entire hog, by about $4 per hundredweight at the farm level Furthermore, due to the removal of bacon, the retail price index of pork was lowered by 0.21 for 1983. This proportional shift in demand was imposed throughout the remaining 4 years of the projection, with the pork industry then reacting to these lower prices. Whole hog price effects were required because the Missouri model does not contain equations specific to particular cuts of meat.

Briefly, here are the results of the analysis. Five variables which characterize the pork industry were evaluated—barrow and gilt slaughter, barrow and gilt seven-city market average price, market prices of sows, retail price of pork, and the value of barrow and gilt marketings.

The immediate effect of a nitrite ban is projected to decrease farm prices. Also it would lower the retail price index for pork, as well as the value of hog marketings. Starting in 1983, slaughter numbers do not decline substantially in the first year, since most of those animals would have already been on hand or bred at the time the ban was assumed to be announced. The gap between the baseline projections and the simulated values then widened on through 1985.

In this projection, by 1985 the industry has responded and reduced pork supplies to the point where prices move above the base

37-406 O - 84 - 3

scenario level. But in making that adjustment, the value of barrows and gilts slaughtered does drop very drastically, because of smaller volumes. In the first year, the value of marketings is reduced by about $600 million below what would have occurred without the ban, and then this decrease in value increases, reaching a maximum of nearly $1½ billion in 1984. Then it drops back to around $670 million in 1987.

Let me just mention briefly a bit more detail on the simulations--or the projections. We have partly indicated, compared with the baseline simulation, what the industry would do without a ban. Barrow and gilt production would drop fairly sharply the first year, then would be at a fairly stable level over the next 4 years.

Hog prices would rise modestly in the year 1984, and hold at nearly a stable level, up just slightly, by 1987.

On average, for the 5-year period of this projection, barrow and gilt slaughter declines by about 7 percent from what is projected otherwise. The maximum decreases come in 1986–87, down 11 percent in 1986 and down 14 percent in 1987. Hog prices over that period average about 4 percent lower and retail prices a little over 1 percent lower. The value, though, of slaughter, averages in those 5 years about a billion dollars below the baseline projection. The maximum, as we indicated earlier, is a drop of about $1.5 billion in 1984, and then begins to narrow down again by 1987.

Finally, as I mentioned, the study does look at what may have already happened to the pork industry as a result of the nitrite controversy. It's very difficult to separate out those specific kinds of impacts from other things that might have affected pork demand because of dietary concerns, and so on. But the analysis here compares price relationships on several pork cuts--pork bellies with several other pork cuts, in the years 1974–75 and 1982–83.

The price of pork bellies relative to hams was 6 percent less in the 1982–83 period than it was in 1974–75. Pounds of pork belly per 100 pounds of live hog has been relatively stable, while actual pounds of ham per 100 pounds of live hog has increased by about 15 percent during this period. Therefore, you might have actually expected, just from a supply standpoint, a different kind of price response.

The 1982–83 hog yielded about 10 percent more loin than in 1974–75, but again the price relationship between bellies and loins was less favorable for bellies than in the earlier period. Although the supply of loins increased, loin wholesale prices relative to bellies were about 20 percent higher in 1982–83 than in the earlier period.

Continuing that same kind of comparison, the wholesale price of bellies relative to the price of live hogs declined by about 25 percent between 1974–75 and 1982–83. So in effect, this analysis gives some indication that the relative value of the pork belly has declined considerably in relation to other pork cuts over this period, and certainly part of that decrease was due to the negative publicity about bacon during this period.

According to our estimates, then, the income at the farm level of the pork industry has already been reduced by $230 million annually from 1974–75 to 1982–83.

The pork processing level has lost $640 million annually in the same time period.

The suggestion is that the loss of income at both marketing levels is due to the reduced demands for bacon caused by increased attention to health considerations, among other things.

Thank you.

Senator GRASSLEY. I think your last statement may have answered some questions I had, and I know your testimony isn't over, but would you go back to figures 2, 3, and 4, and shortly, explain what you're showing.

Dr. FUTRELL. OK. On figure 2, the baseline represents the level of barrow and gilt slaughter that was projected, assuming there was no nitrite ban. That's how the industry is projected to respond without any change. The lower line is the projected level of slaughter that would result with a nitrite ban.

Senator GRASSLEY. OK. So it's come down to 1984, and then it's going to plateau there?

Dr. FUTRELL. That's right. Now, without the ban, the projection would be that the industry would go through a more normal cycle, would actually reduce production in 1984, be about the same in 1985, and would expand production in 1986-87.

With the assumed nitrite ban, the production would drop very sharply in 1984, and then it would show very little change over the next 3 years at the lower level.

Senator GRASSLEY. OK. Then I suppose that would be indicative of all these, as you compare what the price will be, or the income from that would be?

Dr. FUTRELL. Figure 3 does, then, translate down to value of slaughter, and you can see the same kind of relationship. The baseline projection shows the top value, projected slaughter without a nitrite ban. The lower line shows projected slaughter value with the nitrite ban.

As indicated, over that 5-year period, the average reduction in value of slaughter, is about $1 billion per year.

Senator GRASSLEY. OK. Then—I would have said the $232 million that you use is the figure.

Dr. FUTRELL. The $232 million figure is an estimate of the impact that's already occurred in the pork industry——

Senator GRASSLEY. So that's forever lost?

Dr. FUTRELL. Yes. As a result of the adverse publicity that has surrounded nitrite. That's aside from the loss estimates from a nitrite ban.

Senator GRASSLEY. Thank you.

Dr. MEYERS. I would like, then, to proceed to extend this analysis to look at a total ban of nitrites, and again we focused on the pork sector because cured meats are still a relatively small part of livestock and poultry—of other livestock and poultry products, although it is increasing.

We will extend what has been done now to look at a total nitrite ban. This, of course, would eliminate products in which nitrites are used, and then extend its effects through consumption prices, production, inputs and other related sectors, and the next section of our report will focus specifically on how this total ban would translate into impact on Iowa, on not only the pork sector, but on the

processing sector, on the other feed and related sectors of the economy, and on the total economy itself.

Pork products in which nitrites are used constitute over 50 percent of the hog carcass meat products. At retail these products combined are 3.5 times the quantity and value of bacon alone, so when we talk about extending this ban to other cured products, we're talking about 3.5 times the amount of the products we have looked at by looking just at bacon.

Most of this can be converted to fresh products, but they would be lower value products than are now being marketed. Sides, shoulders, and hams now used for bacon and ham would become fresh cuts, sausage, and lard. The allocation that we have done in our table 3 is to attempt to indicate what could be done with these cuts of the carcass were cure processing no longer permitted. The allocation of these would be that 44 percent of what was formerly cured would go into fresh products of various kinds; 30 percent of what was formerly cured would go into sausage; and 26 percent would go into lard—a very low-value product.

In reality, this could not really occur, because consumers would not desire that much sausage and fresh pork at the prices that prevail.

As an initial approximation of the nitrite ban impact, we have compared the value of pork products at constant prices with and without nitrite use in products, and this we've done on table 4 of our report.

Again, we're holding prices constant so as to get just the shift in the values of the products produced. Without nitrites, seven categories listed on this table are no longer available; that is, bacon, shoulder picnic hams, franks, bologna, canned lunch meat. Those are no longer available. Even with constant prices, a shift to lower-value products reduces the value of output from the production of hogs by $5 billion in this year, the first year. The average retail price is reduced by 36 cents per pound, and that shows up in the 24 percent decline in the price.

This case is extremely unrealistic because sausage consumption would have to increase 3½ times, and fresh pork cut consumption would have to increase by 2½ times at fixed prices.

So the next step in our analysis is to try to anticipate what consumers would actually do in response to this loss of products that they formerly consumed.

I'd like to trace through the series of reactions that we feel would take place.

First of all, the consumer demand for pork would decline as fewer and less desirable products replaced numerous and favored products that they were consuming before.

Second, the prices of the few remaining pork products—that is the fresh and the sausage—would decline due to oversupply.

Third, lower prices and product values would lead to lower-value hogs at the farm level.

Fourth, farmers would reduce production, and both production and prices would be lower for pork.

Finally, prices and production of other livestock and poultry products would probably increase as consumers seek alternatives to the banned products, which are primarily in the pork sector.

So taking these assumptions into account, and assuming that some of the lost bacon demand would shift over to fresh sausage, we have computed another impact which would assume that the consumers would substitute half of what they formerly consumed as bacon into sausage products, and that they would replace their lost ham consumption, one-third of that, with fresh pork products. The other substitutions would go to other livestock and poultry.

This assumption leads to a decline in value of pork products of $8.3 billion, which is almost a 40-percent decrease in the value of pork products. It would, according to this estimate, reduce the price by almost 30 percent. That would be equivalent, at the wholesale level, to the barrow and gilt price going from $50 down to $30.

Senator GRASSLEY. Is that for 1 year?

Dr. MEYERS. That would be the first year, the initial year impact.

And if we look back at the Missouri study, it found that the biggest impacts were the second, third and fourth years, rather than in the first year. So we will bring that to bear on this as well.

So the total at this point, the initial impact of a total nitrite ban, is nearly five times as great as the ban on bacon products only.

So now we compare this to what might happen over a longer period of time, and using the Missouri study that has just been reported, we would say that this large price decline of 29 to 30 percent would lead to reduced production until prices returned to levels that would be sustainable. The value losses in the first few years of this adjustment, similar to the study of bacon, would probably be greater than 40 percent, and in later years it could be less, as prices rebound.

It is difficult to say how much production would have to decline to bring this about, but it could be on the order of 30 percent or more decline in production in order to make that adjustment. So we are looking at the possibility of initial impact of 30 percent in prices, 40 percent in value, and over the longer run, possibly a decline in production of approximately 30 percent or more.

Now, that is at the level of the U.S. pork sector as a whole, and now Dr. Otto will report on tracing those impacts through to the Iowa economy.

Senator GRASSLEY. What is that 5-year figure that you have for the total?

Dr. MEYERS. It would be on the order of five times what it was from the bacon studies. The $1 billion that was reported in the previous study was at the farm level, and so if we would raise that to the retail level, that would be about $2 billion because the farm level is about half the retail value. So we are comparing the $2 billion loss at the retail level with bacon only, to possibly a $8 billion to $10 billion loss for a total nitrite ban. At the farm level we'd be comparing a $1 billion loss for bacon only, to about a $4 billion or $5 billion loss with all nitrites banned—each year.

Dr. OTTO. Thank you, Senator Grassley.

Before I attempt to assess the economic impact to the Iowa economy of a nitrite ban, I'd like to provide a little background on the pork industry in Iowa to give a little perspective to the magnitude of this issue.

The livestock industry is a multi-billion dollar component of the Iowa economy, with the farm value of beef and pork production to-

taling approximately $6.4 billion in 1983, with our $2.4 billion in cattle and $2.9 billion in the pork industry.

In addition to the value of the livestock production, this industry is important as a major consumer of some of the other commodities of Iowa agriculture.

Looking at the production process for pork production, this industry uses approximately 330 million bushels of corn and 1.6 million tons of feed supplements worth approximately $1.5 billion. In addition, there are other inputs, such as labor, veterinary supplies, equipment and other items, that total approximately $400 million, for a total of almost 2 billion dollars' worth of inputs to this production process.

Beyond the farm level, there are additional economic benefits from the hog production in the form of increased income and job opportunities in the hog slaughter and processing industry. In Iowa, approximately 20 million head of hogs are slaughtered each year. This is approximately 22 percent of the total U.S. slaughter production. There are approximately 22,000 employees in this industry in Iowa, and approximately 16,000 of these are employed in the pork processing industry.

In looking at the potential impact to the State economy, I drew upon the estimates provided in table 4 of the decomposition of the total retail value back into the various components, the different marketing components, and these are listed in table 7 on page 28.

Column 1 details the breakdown for the United States of the various components of the margin in terms of the value at that particular level of the process. In the United States there's approximately $21.1 billion of pork at the retail level. At the transportation, at the warehouse level, it's worth approximately $15.8 billion. At the slaughter and processing level, $14.1 billion. And the farm value is $10.5 billion.

In terms of the inputs to the farm industry, these are sort of a breakdown of the various ingredients that go into producing 10.5 billion dollars' worth of hogs.

The second half of this page attempts to do the same breakdown for the State of Iowa, the pork production industry in Iowa. We estimate that Iowa's share based on the 27 percent of the production in Iowa is $5.7 billion. At the farm level—this is a value using the USDA estimate of 50 percent of the carcass value being at the farm level—this is 2.85 billion dollars' worth for the pork industry.

At the slaughter and processing level, this is $2.8 billion. Transportation and warehousing, $4.3. And then the final margin is added by the cutting and merchandising.

The inputs to this farm level production are similar to those I just mentioned in terms of the various inputs—corn, veterinary supplies, labor and returns through management and profit.

So the impact of a ban of nitrite on the Iowa economy would—the scenario analyzed was the case where there is limited substitution of sausage for the bacon and other fresh cuts of meat for the hams and picnics. That's the case B, the more dramatic situation. We estimate this loss at the retail level for Iowa to be 2.25 billion dollars' worth of output. At the farm level this loss would be $1.1 billion. At the slaughter and processing level, $1.5 billion.

Some of the other losses are detailed at the farm level. Here we have a less than proportionate reduction in some of the inputs. Since there is less value per hog, it would take a greater quantity of hogs per unit to reach 5.7 billion dollars' worth of output. And we used the estimate from table 4, that the quantity reduction from a ban on nitrite would be 14 percent reduction in the quantity of output. So these are reflected in the level of inputs that are used in the pork production process.

In order to look at beyond the agriculture and pork producing sector to estimate the impact on the rest of the economy, we used an input/output analysis to look at some of these broader impacts. Input/output is a technique that summarizes a series of economic transactions that occur within the economy following an initial shock, like the banning of nitrite in pork processing. We chose to do this analysis at the processing level, the estimated $1.5 billion worth of processing loss, because a large share of that is done in Iowa and incorporates a lot of the value-added components in that process.

The results of this analysis is summarized in table 8 in terms of the distribution of some of these impacts to various sectors and in terms of output loss, employment loss and income loss in the State economy. These impacts are specific to Iowa.

Some of the numbers to be highlighted are, the major share of the loss is in the manufacturing sector, which includes the pork processing. In addition to the $1.5 billion of pork processing or other related manufacturing losses, at the agricultural level there's a $1.1 billion loss associated with this. Overall, the estimated loss to the State economy from a ban on nitrites would be $3.2 billion of output, 21,800 jobs lost, and approximately $535 million of reduced income.

Senator GRASSLEY. All of that is just because of the first year?

Dr. OTTO. This is on an annual basis. So it's the average of the 5 year figures.

Now, one other thing I'd like to point out, though, is that these impacts are under the assumption that they represent the resources involved in the pork production that would be lost, and assumes that they would not be put to use in other activities. I think over time, though, at the farm level some of these resources would find other uses. They'd perhaps have less value, but they may be reemployed or they maybe moved to other States and were employed. But this represents the resources devoted to pork production that would be lost under a ban of nitrite.

Senator GRASSLEY. All right. You weren't done, were you?

Dr. OTTO. Yes. That was the final point.

Senator GRASSLEY. OK. My question wasn't meant to anticipate your being done. I just wanted to get it in.

So as a result of damage already done, 100,000 jobs would be lost——

Dr. OTTO. 21,000 jobs.

Senator GRASSLEY. Yes, 21,800 jobs. But that's a yearly average?

Dr. FUTRELL. Per year.

Dr. OTTO. Yes, a permanent loss of 21,800 jobs.

Senator GRASSLEY. So in other words, in 1984 we would have 21,000 less people employed than we would have had if we hadn't had the nitrite scare?

Dr. OTTO. That's right. And the distribution is across the entire economy; not only the agriculture and the pork processing industry, but also in the various service sectors that get income from the spending of the income.

Dr. MEYERS. One clarification, Senator. These impacts would be the result of a nitrite ban.

Senator GRASSLEY. Yes. It's always a problem to differentiate between just what we've already lost as a result of the scare and probably how much worse off we would be if we had actually had a total nitrite ban.

Now, did you have a summary that you wanted to go to?

Dr. MEYERS. Just a few words, to say what we didn't do.

We did not evaluate the impact on consumers, which would be even more difficult than what we've done on the production side. But we do know that consumers currently spend $10 to $11 billion on the products, and the economic concept of consumer surplus tells us that consumers would be willing to spend even more than that rather than be deprived of the products. If these products were no longer available, consumers would substitute other food products which they currently consider less desirable. Still, the net economic loss to the consumers could well be as great or greater than the loss to the producers.

The other part that we have not evaluated is the effect on other livestock and poultry producers, which we believe would gain more than they'd lose from this ban because of the pork consumers switching over to some of these other products.

We believe this analysis is an indicative one and subject to a lot of uncertainty, especially because we don't know what consumers would do when such a large chunk of their consumption product is removed from the market. The economic measures that we have available to look at such effects are useful for looking at small changes, but they do not apply well when products are completely taken away. But we do believe that the kinds of losses that we have estimated—that is, 30 percent decline in prices, 40 percent decline in value of production, and losses to the U.S. pork sector of $8 billion at retail and $4 billion at the farm level are realistic ones. Further studies could probably make those estimates better, but again we're really dealing far outside of past experience here in trying to estimate economic impacts.

Thank you, Senator.

Senator GRASSLEY. Thank you.

Back to Dr. Otto, clarify for me again whether or not, as of this minute, if we had banned nitrites back in 1979 are we just short 21,000 jobs, or five times 21,000 jobs?

Dr. OTTO. We are short the 21,000 jobs. It's in annual terms So from the original ban, it would be 21,000 jobs a year. That's the nature of this analysis. There's a shock when this particular industry is taken out of the economy, and how many jobs, output and income go along with that. It's like a one-shot impact rather than a compounding one.

Senator GRASSLEY. OK. Consumer losses were $26 billion in that study you referred to—or $2 billion, I mean.

Dr. MEYERS. There were $2 billion estimated in the CAST Report, and that took into account the loss if you took away the bacon but don't give them anything else. So insofar as consumers go out and buy more—in that case, they could buy more ham or sausage and other things—the loss to consumers wouldn't be quite that large.

So I think the CAST estimate of consumer surplus, of loss to consumers, is probably a high one, because it did not take into account possibilities for consumers to eat other things.

Senator GRASSLEY. Now, under a total ban, then, it would be much greater?

Dr. MEYERS. Yes; compared with the consumer surplus that CAST mentioned, of just bacon, of about $2 billion, the consumer surplus associated with all cured products would be about $10 or $11 billion. So we're starting out with a loss of $10 or $11 billion when you take away the cured products. And that loss would be reduced when you add in what other products they would substitute.

So I would still say that the loss to cons ers could easily be more than the loss to producers. In other words, it could easily be more than $4 billion, I would estimate.

Senator GRASSLEY. In your executive summary here you refer to a ban on nitrite would result in a loss to the feed industry of a half billion dollars. Do you mean to feed processors, or are you referring to feed-grain markets—or the feed-grain farmers, producers, I should say?

Dr. OTTO. That would be the loss to the feed grain producers. There would be that much less value being fed to hogs.

I guess one thing maybe I forgot to mention, just another way of putting this into perspective is to look at some of the losses in a particular sector. The aqricultural loss here amounts to 11 percent of the total value of output in agriculture. The largest component, the loss in the processing industry is approximately 38 percent of the total employment, total output in that industry. So that would put a sizable dent in those two sectors.

Senator GRASSLEY. Would you be willing to generalize—and I don't want to beg an answer you can't professionally feel competent to give, but since most feed grain is fed to livestock, would that make a major disruption—would there have been a major disruption as the result of a ban?

Dr. OTTO. Maybe Dr. Meyers can help answer that, but I think this size of disruption would have put pressure on prices.

Dr. MEYERS. Let's say in the total feed loss to the United States of $1.8 billion corn is $1.1 billion. If you translate that into quantity, it would be about 400 million bushels. And that could reduce the price of corn by 50 or 60 cents per bushel. So that would be fairly substantial, if I did my arithmetic right.

Senator GRASSLEY. Why don't you let that stand for the moment, unless you think otherwise, and then submit a written statement of correction to us within the next few days.

Dr. MEYERS. Fine.

Senator GRASSLEY. I think that, since you went into so much depth, that most of the questions I anticipated might have been al-

37-406 O - 84 - 4

ready answered, and if not, are probably answered in the total of your testimony.

So let me say, at least for my part, a second or third time since 1978 when Iowa State University responded to my request to look into some of these things—this time with your economic analysis, and before with your scientific study of the Newberne report to determine its credibility—you broke a lot of ice for us that led to a further scrutiny by CAST and by other independent sources, I thank Iowa State University for responding to these requests. Indirectly, I think that I can speak for agriculture in Iowa generally, that your help in regard to this nitrite issue over the last 5 years has helped us to be victorious and so I'd be expressing thanks from all agriculture in Iowa.

Thank you very much, and we'll go on now to the next witness.

Without objection, your complete prepared statement will be inserted into the record at this point.

[The prepared statement of Mr. Meyers follows:]

ECONOMIC IMPACTS OF A NITRITE BAN: AN INDICATIVE ANALYSIS

prepared by

Food and Agricultural Policy Research Institute

Center for Trade and Agricultural Policy
Iowa State University
William H. Meyers, Prof-in-Charge

Center for National Food and Agricultural Policy
University of Missouri-Columbia
Abner W. Womack, Co-Director
Stanley R. Johnson, Co-Director

presented at hearings of the
Senate Committee on Labor and Human Resources
U.S. Senate
Des Moines, Iowa, July 2, 1984

Economic Impacts of a Nitrite Ban: An Indicative Analysis

Study Coordinator. William H. Meyers

	Page
Setting of the Nitrite Controversy	1
Joseph G. Sebranek, Professor of Animal Science and Food Technology	
Review of Past Studies	4
William H. Meyers, Professor of Economics	
Intermediate Impacts of a Ban on the Use of Nitrites in Bacon Processing (CNFAP-University of Missouri)	8
Glen Grimes, Professor and Extension Economist	
Abner W. Womack, Professor and Extension Economist	
Leonardo Green, Post-Doctoral Economist	
Robert Young, Economist	
Phyliss Lammers, Economist	
Estimated Impacts of a Total Nitrite Ban	20
William H. Meyers, Professor of Economics	
Arnold A. Paulsen, Professor of Economics	
Robert E. Rust (Consultant) Professor of Animal Science	
Impacts on the Iowa Economy	25
Daniel M. Otte, Professor and Extension Economist	
Gene A. Futrell, Professor and Extension Economist	
Qualifications	32

Executive Summary

- Although a nitrite ban is not anticipated, it was very narrowly averted a few years ago. Even then the economic consequences were never explored.
- Past studies have focused on bacon only, because a ban on all nitrite use in meat processing would be so big a shock to the pork industry that it is difficult to measure with any confidence.
- A 5-year analysis of the impact of a nitrite ban in bacon processing estimated the decline in the value of slaughter to range from 6.5 percent the first year to 15.2 percent the second year and to average 10.6 percent over the 5 years. Production would fall an average of 6.6 percent per year.
- An analysis of the impact of a total nitrite ban on the pork sector estimated the decline in the value of products (or slaughter) to be around 40 percent (roughly $8 billion at retail and $4 billion at the farm level). Prices and production are estimated to fall initially by 29 percent and 14 percent, respectively. In the longer run, production would have to decline by about 30 percent to bring prices up to a sustainable level.
- The decline in hog feeding would either mean losses to corn and soybean producers of $5 billion or much higher costs of government programs.
- The impact of the pork sector losses on the Iowa economy showed estimated losses of $3.2 bil in total output, 22,000 jobs and half a billion dollars in personal income. The processing sector employment would drop by about 37 percent and its output would fall by $1.5 billion. Pork producers would lose $1.1 billion in revenues and the feed industry would lose $0.5 billion. Adding the potential drop in corn and soybean prices, would raise the loss to Iowa farmers to about $2 billion and the state economic loss to over $4 billion.

- Consumer losses were not evaluated, but nationally they could be at least as great as the $4 billion loss to U.S. pork producers.
- Cattle and poultry sectors would gain more in new sales and higher prices than they would lose in banned products. These impacts were not measured in this study.
- The greatest uncertainty in this analysis is what consumers would do when $10 billion worth of food products they regularly buy, suddenly disappear. To what extent would they substitute other pork products, other meats or other foods? Normal economic measures fail, because of the drastic nature of the shock.

Setting of the Nitrite Controversy

Food safety laws and policies in the United States have evolved through the years with a primary priority of consumer safety. This "top priority" objective has led to a food supply that is probably the safest in history while, at the same time, presenting consumers with the most variety and selection they have ever encountered. Scientists and food technologists have developed and are continuing to develop new ingredients, processes and products that increase consumer choices. As technical knowledge increases, however, there has been an increasing awareness of the chemical components of food and increasing concerns about the safety of some of these specific chemical compounds. Interest in this area will continue to grow as the relationship between diet and good health receives more and more attention.

Probably the biggest concern for consumers has been potential carcinogens in food, because cancer is at best a poorly understood disease and because malignancies may be induced by extremely small quantities of chemical carcinogens or initiators. The concern for carcinogens is exemplified in the 1958 Food Additives Amendment to the Food, Drug and Cosmetic Act in which the so-called Delaney clause specifically addresses use of carcinogens:

> "No additive shall be deemed safe if it is found to induce cancer when ingested by man or animals, or if it is found, after tests which are appropriate for the evaluation of the safety of food additives, to induce cancer in man or animal ..."

This clause has generated much debate and controversy for a number of reasons. First, while the "spirit and intent" of the clause, namely to eliminate carcinogens, is obviously important and should not be diminished, sciencific progress now allows analytical detection of known carcinogens at

levels where biological significance becomes an open question. Consequently, a quantitative definition of "safe" becomes necessary for evaluating parts per trillion concentrations of food components. This dilemma can only worsen as analytical methods continue to improve. Secondly, knowledge concerning carcinogenesis has progressed greatly since 1958. Chemical compounds can, for example, serve as "initiators" or "promotors." The presence of an "initiator" is a much different level of concern than that of a "promotor." Consequently, an element of scientific judgement based on current knowledge is necessary to correctly evaluate the presence of various compounds. Third, since it is becoming obvious that scientific "judgement" is becoming more and more important, it is critical that the regulatory agencies have the best scientific input possible and that some checks and balances be developed to prevent injecting "emotional appeals" into "scientific judgement." This could be accomplished by extramural peer review of all scientific data that has impact on regulatory decisions.

Certainly, the concept of the Delaney clause in current food laws should not be weakened. What is needed is a modernization and an updating to make this concept applicable and effective in today's food industry. As it now stands, the regulatory agencies run the risk of unnecessarily alarming consumers (and losing credibility at the same time), eliminating beneficial food additives that represent virtually no risk, disrupting huge segments of the food industry without adequate scientific justification, and bringing economic loss to producers of affected commodities.

Nowhere have these problems been more apparent than the situation involving sodium nitrite in cured meat. Nitrite has been closely scrutinized since the 1950s when it became apparent that combination with secondary amines could result in nitrosamines; compounds which are clear-cut

carcinogens. Nitrosamines were detected in meat products in the 1960s, and the cured meat industry subsequently evolved numerous process changes to eliminate these compounds from finished products. This situation generated sufficient controversy that consumers developed an acute awareness of the nitrite-nitrosamine-cured meat relationship. By the late 1970s however, nitrosamine formation in cured meat was, for the most part, eliminated, and concerns for nitrite had begun to diminish. However, in 1978, an FDA sponsored study reported that nitrite itself appeared to increase tumor formation in rats; a conclusion that the principal investigator himself termed "only suggestive." Nevertheless, the USDA and FDA jointly announced plans to eliminate use of nitrite.

Nitrite is unusual in that it creates a unique processed meat product and also provides protection from botulism toxin formation in those products. Considerable research has demonstrated that nitrite is a highly unique chemical compound with no known chemical substitutes. Consequently, a large industry which utilized half or more of all pork produced as well as large amounts of beef for cured meat was to be left with no alternative means of producing cured meat products. Even so, within the letter of the law, it appeared that the FDA and USDA would withdraw this ingredient from use and preliminary steps in that direction were taken. However, as the original research report and data became available, numerous scientists began to raise questions about the decision; initially because the conclusions of the study were not emphatic (they were "suggestive") and subsequently because even those "suggestive" conclusions were questionable upon thorough review. This aspect clearly demonstrates the value of extramural peer review of research which has implications for regulatory decisions.

37-406 O - 84 - 5

Fortunately, the regulatory agencies did not ban nitrite and it continues to be used. However, this situation should not be dismissed as a past episode but reviewed as a valuable learning experience. The situation with nitrite highlights the rigid and inflexible regulatory stance that can result from and be justified by current law. This experience should be remembered in considering the revision and modernization of food laws for today's real world.

Since nitrite came very, very close to being banned, it is relevant to consider this an example of what could occur. Further, it is valuable to attempt to quantify the economic consequences that would have resulted from such an event, since these should be weighed against potential food safety gains.

Review of Past Studies

Economic impacts become more difficult to assess as the size of the assumed shock increases. A shock such as completely removing nitrite use in meats is so large that the results must lie outside anything so far experienced or observed. Analysis of consumer, producer, processor, and market behavior under the hypothetical conditions of a nitrite ban is therefore subject to much uncertainty. For this reason previous economic impact studies have focused on pork bellies and bacon.

Three studies are reviewed here. They were done by CAST (March 1978), Purdue University (August 1978) and the USDA (December 1978). The studies made different assumptions regarding substitution in production and consumption, so results would differ for that reason alone. The CAST and Purdue reports look only at effects on the pork sector and only the first year impact. The USDA study looks at effects on other livestock and crops and uses a 5-year time horizon.

The CAST analysis estimated the largest overall impact, because it allowed the least amount of substitution in production and consumption (Table 1). The loss to consumers was equal to that for farmers and processers combined.

The Purdue study assumed that consumers would substitute ham and sausage for some of the loss in bacon, and 2/3 of the pork bellies would be processed into sausage and lunch meat. The main differences with the CAST results were a smaller loss to processors and consumers -- although the consumer impact was not quantified.

The USDA study allowed for interaction with other livestock and crop sectors. They found a similar first year impact in the pork sector, but the impact declined slightly over the 5-year period of the study. The pork sector impacts were partially offset by gains to beef and broiler sectors, but net farm income for all crops and livestock declined by 5.5 percent per year during the period. Consumer effects were measured through changes in the food price indices which increased by 4 to 6 percent for pork and 0.6 to 0.7 percent for all food. Assuming the same quantity of total food consumer, the higher prices represent a higher cost to consumers of about $2 billion each year. This study underestimates the pork sector impacts, because it does not take into account the decline in consumer demand for pork products when bacon is no longer available. The result is their retail pork prices are too high.

As noted above, these studies did not quantify the impacts of a total nitrite ban. However, the CAST and Purdue reports made the following comments about a total ban:

> "Losses to consumers, farmers and the food industry in this one product would be multiplied several times if nitrite

Table 1. Estimated revenue impacts due to the elimination of nitrites in bacon.

Sector	CAST[a/]	Purdue[b/]	USDA[c/] Year 1	USDA[c/] Year 5
	million dollars			
Farm	-700	-840	-490	-183
Hog			-704	-582
Fed beef and broilers			+214	+444
(Net farm income)[d/]			(-5.4%)	(-5.5%)
Processors	-1500	-1030		
Consumers				
Consumer surplus	-2250			
(Pork CPI)			(+4.4%)	(+6.2%)
(Livestock products CPI)			(+1.3%)	(+1.4%)
(All food CPI)			(0.6%)	(0.7%)

[a/] Assumes 40% of pork bellies would be used for other products but ignores substitution in consumption.

[b/] Assumes that 2/3 of pork bellies used to produce sausage and that consumers substitute ham and sausage in consumption.

[c/] Assumes 15 percent of the pork bellies consumed as "fresh bacon" and the rest processed into sausage, other meat products and lard. Allows substitution of nonpork products.

[d/] Includes feed crops.

were discontinued in all processed meats. The magnitudes would be several billion dollars in each sector, and much of the cultural heritage expressed in food habits would be lost." (CAST, p. 36)

"The expected effects of a total ban of nitrites in all cured pork items seems incomprehensible with respect to the pork and allied industries. Because such a high percentage of the pork carcass is cured, Madsen concluded that a complete elimination in all cured meats would all but destroy the hog business." (Brandt, et al., p. 4)

Another recent study has noted that "It would be an almost impossible task to evaluate the economic consequences of a total ban on nitrite use in the pork industry" (Hayenga, et al.)

In order to establish a current reference point for looking at a total nitrite ban, we conducted a new analysis of the impact of a nitrite ban in bacon processing. The price and quantity interactions are assessed over a 5-year period and the decline in consumer demand for pork is taken into account.

Intermediate Term Impacts of a Ban on the Use of Nitrites in Bacon Processing

(CNFAP - University of Missouri)

This study will analyze the effect on the pork sector of a ban on cured bacon production. The effects across other livestock markets (namely beef) and the feed grains sector will not be examined here. An effort is also made to appraise the impact on the current demand and price of hogs of adverse publicity concerning harmful health characteristics of bacon.

Methodology

Two five-year simulations were performed, starting in 1983. The baseline scenario, a subset of the UMC 10-year forecast, assumed that nitrite bans would not occur and that the industry would react as it has in the past. The second scenario imposed the ban on nitrites in bacon processing. It is based on two major assumptions:

A. The percentage of pork bellies per cwt. of the hog is 11.5%, based on 82/83 average, and this ratio will hold throughout the scenario period.

B. Ninety percent of bacon currently produced would be diverted to lard and trimmings, with the remainder going to fresh bacon.

The second assumption had the effect of lowering the value of the bellies and in turn, the entire hog, by four dollars per cwt. at the farm level. Further, due to the removal of bacon, one of the more expensive retail products of pork, the retail price index for pork was lowered by 0.21, for 1983. This proportional shift in demand was imposed throughout the remaining four years with the pork industry reacting to these lower prices. Whole hog price effects were required, as the UMC model does not contain equations specific to particular cuts of meat.

Results of Scenario Runs

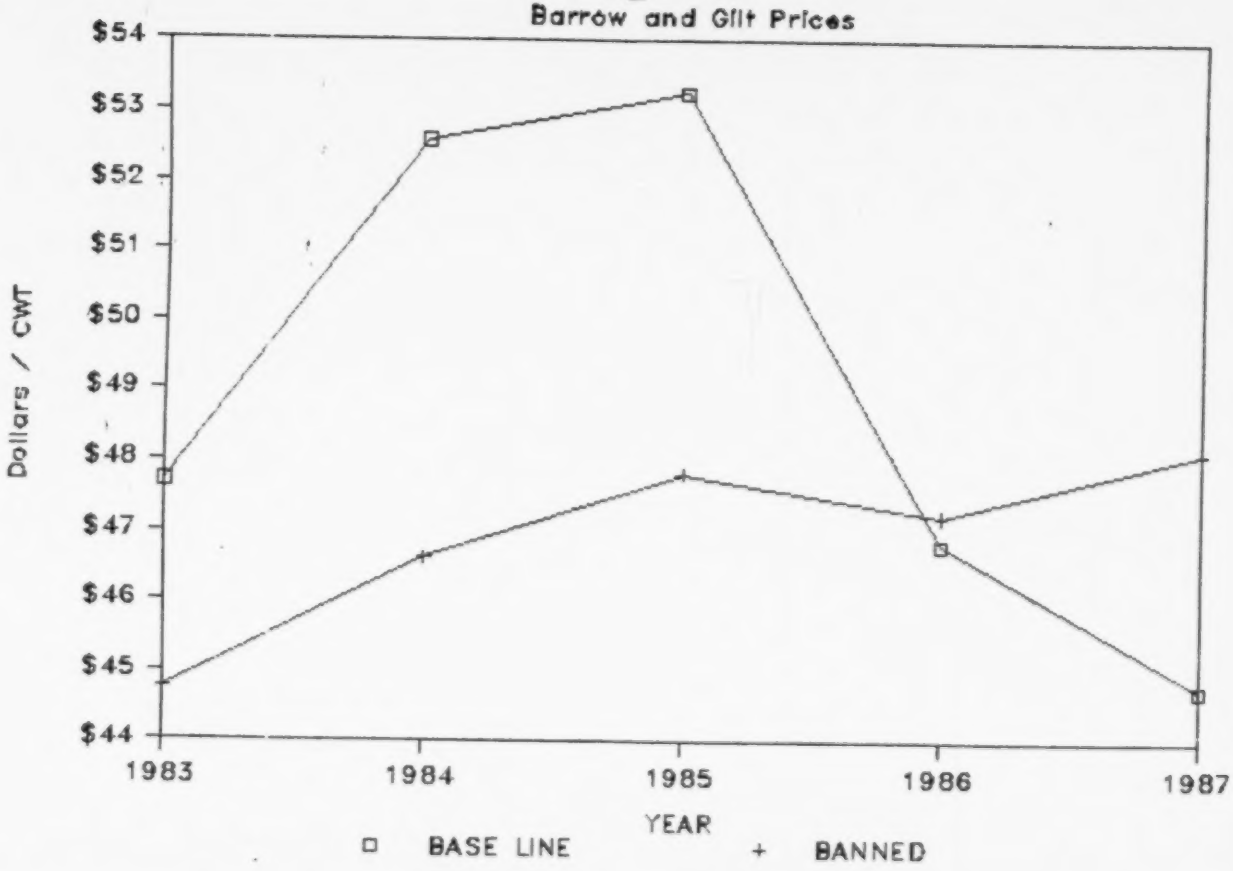
Five variables which characterize the pork industry were selected for evaluation - barrow and gilt slaughter, barrow and gilt seven-city market price, market prices of sows, the retail price of pork and the value of barrow and gilt marketings. Figure 1 shows the barrow and gilt prices, Figures 2 the barrow and gilt slaughter, Figure 3 the value of slaughter and Figure 4 the retail price index for pork.

The immediate effect of a nitrite ban is projected to decrease farm prices, the retail price index for pork, and the value of marketings (Table 2). Slaughter numbers do not decline substantially in the first year, as most of these animals would have been on hand or bred at the time the ban was announced. The gap between the baseline simulation values and the ban imposed values widens through 1985. By 1985 the industry has reduced supplies to the point where prices exceed the base scenario levels. In making the adjustment however, the value of barrows and gilts slaughtered declines drastically in the near term. In the first year, the value of marketings is $601 million lower in the ban scenario than in the original scenario. This decrease grows, reaching a maximum of $1.47 billion in 1984, then declining to $670 million by 1987. Based on historical patterns the loss in retail value would be about twice that at the farm level.

Historical Perspective

What has the nitrite controversy done to the pork industry so far? It is difficult to separate these specific effects from the general shift in demand because of dietary concerns, but a comparison of price ratios of various cuts of meat in 1974/75 with those observed in 1982/83 may be helpful in evaluating the general shift. The price of pork bellies relative to hams was 6 percent less in 1982-83 than 1974-75 (Figure 5). It is also estimated that pounds of

Figure 1


Barrow and Gilt Prices
$54
$53
$52
$51
$50
$49
$48
$47
$46
$45
$44
Dollars / CWT
1983
1984
1985
1986
1987
YEAR
BASE LINE
BANNED

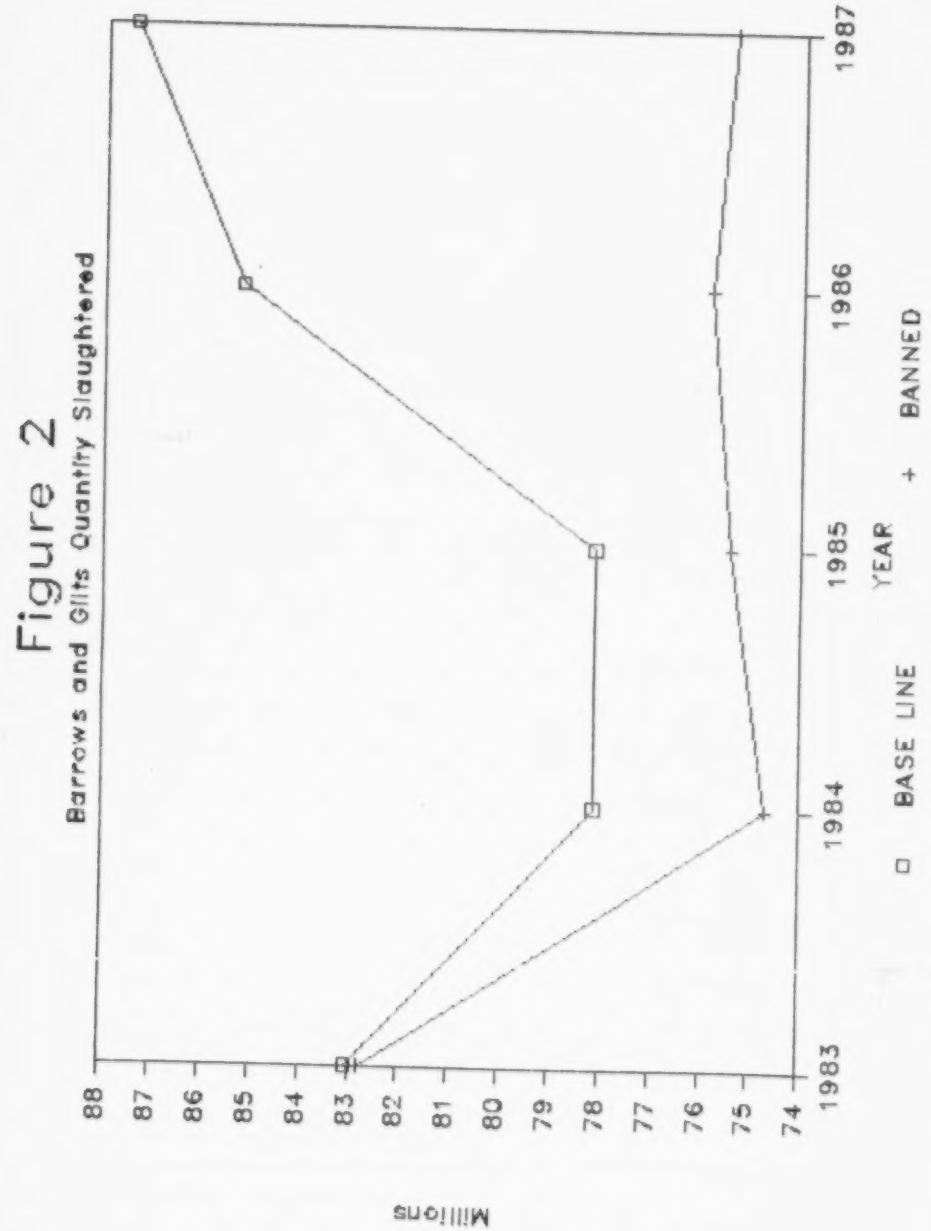


Figure 2
Barrows and Gilts Quantity Slaughtered
Millions
88
87
86
85
84
83
82
81
80
79
78
77
76
75
74
1983
1984
1985
1986
1987
YEAR
□ BASE LINE + BANNED

37-406 O - 84 - 6

FIGURE 3

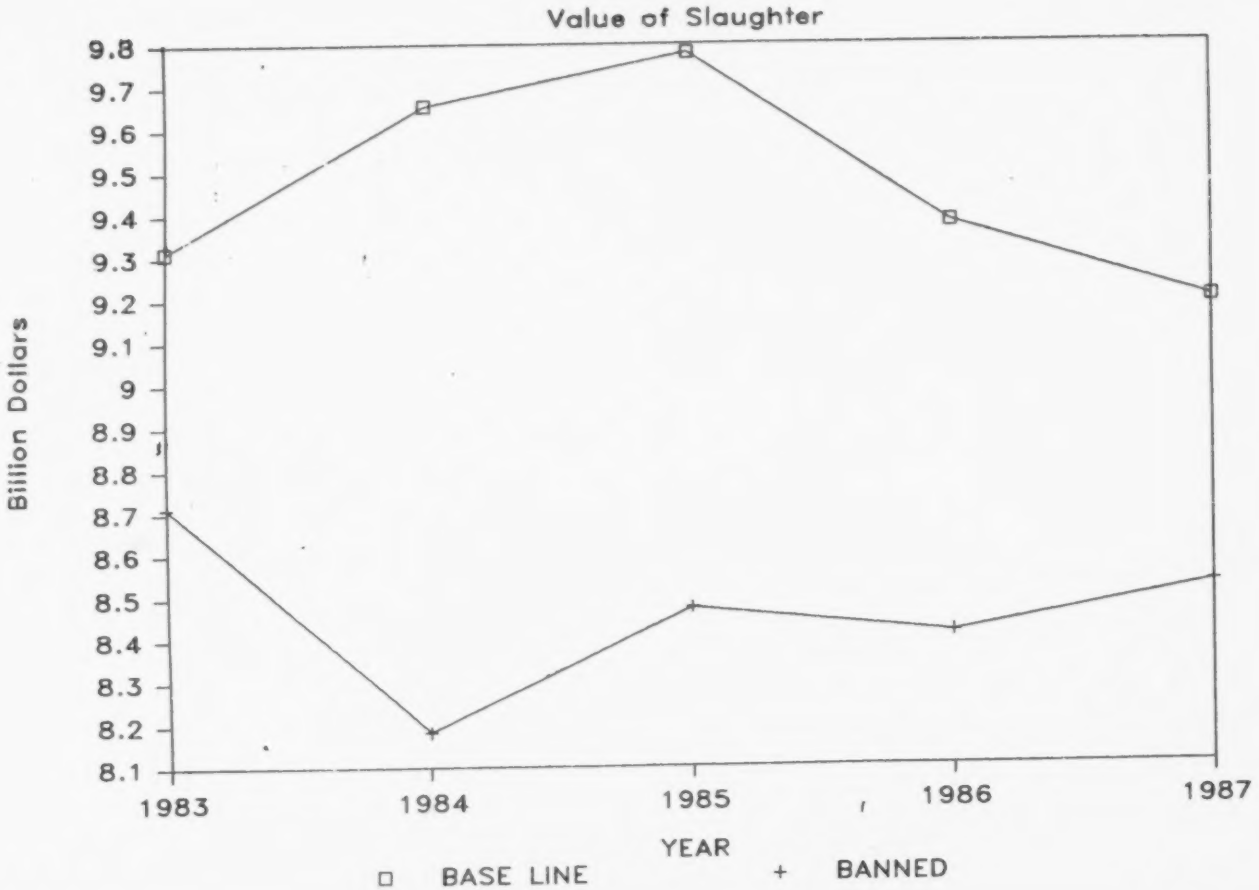

Value of Slaughter
Billion Dollars
9.8
9.7
9.6
9.5
9.4
9.3
9.2
9.1
9
8.9
8.8
8.7
8.6
8.5
8.4
8.3
8.2
8.1
1983
1984
1985
1986
1987
YEAR
BASE LINE
BANNED

Figure 4

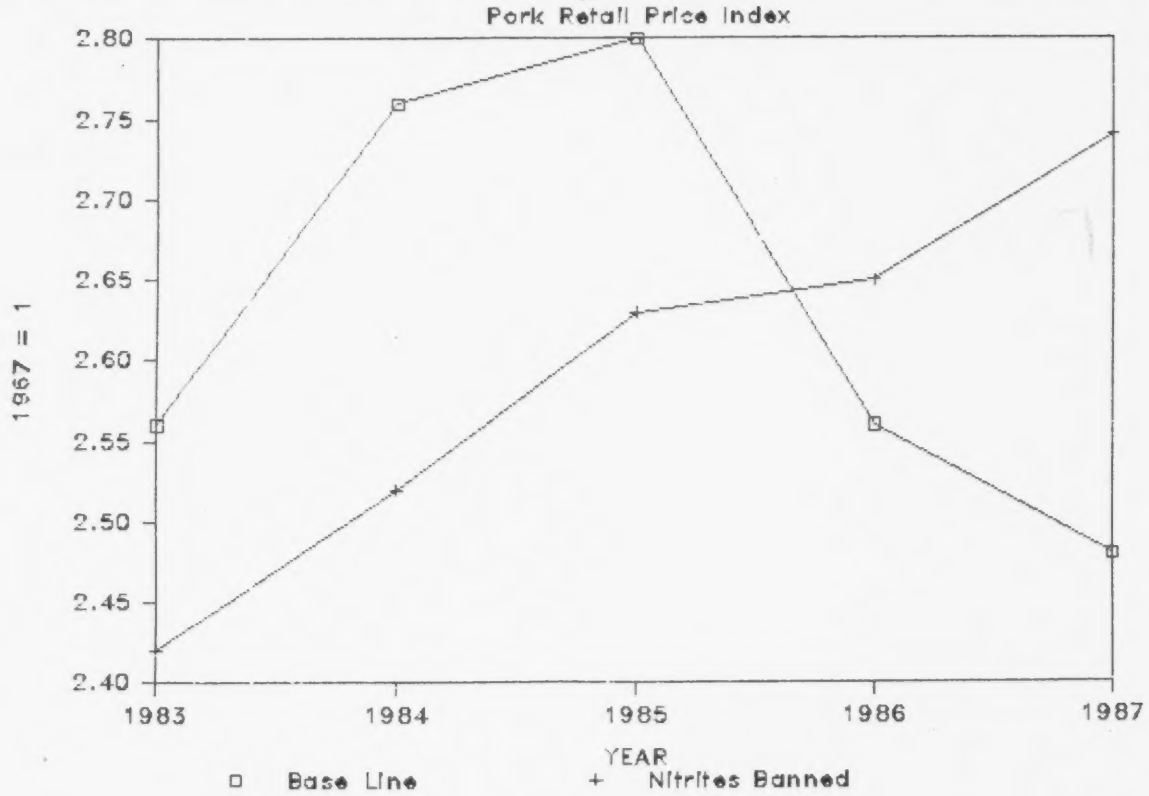

Pork Retail Price Index
2.80
2.75
2.70
2.65
2.60
2.55
2.50
2.45
2.40
1967 = 1
1983
1984
1985
1986
1987
YEAR
Base Line
Nitrites Banned

Table 2. Estimated impact on pork production, prices and farm value of a ban on nitrite use in bacon. CNFAP

BASE LINE SIMULATION

YEAR	Sow Price ($/CUT)	Barrow & Gilt Price ($/CUT)	Pork Retail Price Index (1967 = 1)	Barrow & Gilt Slaughter (MILLIONS)	Value of Slaughter (Mill. Dol.)
1983	41.94	47.71	2.56	83.06	$9,313
1984	46.22	52.58	2.76	78.14	$9,655
1985	46.82	53.26	2.80	78.14	$9,780
1986	41.15	46.82	2.56	85.25	$9,380
1987	39.34	44.76	2.48	87.43	$9,196
Average	43.09	49.03	2.63	82.40	$9,465

NITRITE BANNED SIMULATION

YEAR	Sow Price ($/CUT)	Barrow & Gilt Price ($/CUT)	Pork Retail Price Index (1967 = 1)	Barrow & Gilt Slaughter (MILLIONS)	Value of Slaughter (Mill. Dol.)
1983	41.25	44.77	2.42	82.80	$8,711
1984	43.92	46.62	2.52	74.69	$8,183
1985	44.83	47.81	2.63	75.42	$8,474
1986	44.05	47.22	2.65	75.83	$8,415
1987	44.57	48.12	2.74	75.40	$8,526
Average	43.72	46.91	2.59	76.83	$8;462

DIFFERENTIALS

YEAR	Sow Price	Barrow & Gilt Price	Pork Retail Price Index	Barrow & Gilt Slaughter	Value of Slaughter (Mill. Dol.)
	------ (Percentage Change)------				
1983	-1.6%	-6.2%	-5.5%	-0.3%	($601)
1984	-5.0%	-11.3%	-8.7%	-4.4%	($1,472)
1985	-4.3%	-10.2%	-6.1%	-3.5%	($1,306)
1986	7.0%	0.9%	3.5%	-11.0%	($965)
1987	13.3%	7.5%	10.5%	-13.8%	($670)
Average	1.9%	-3.9%	-1.2%	-6.6%	($1,003)

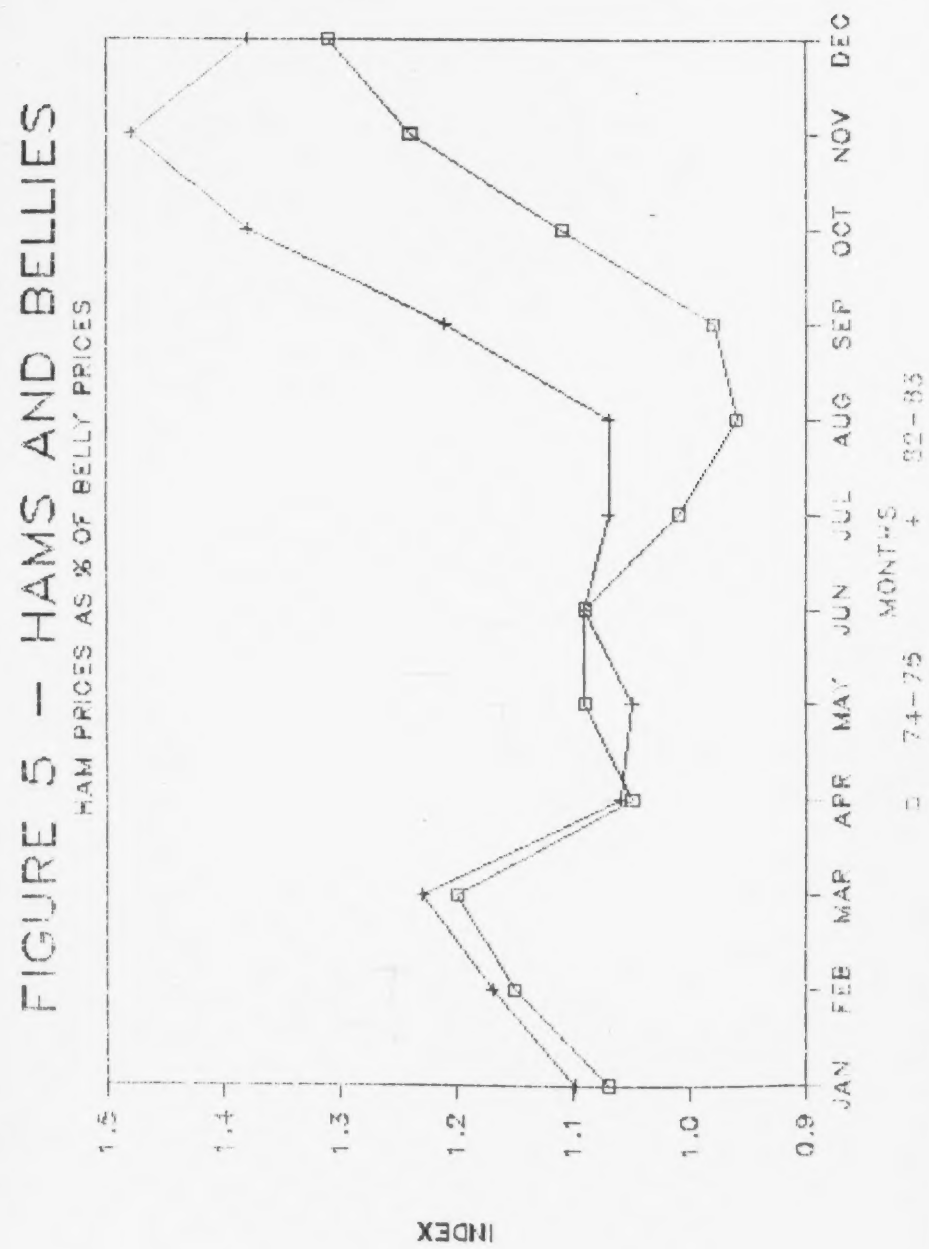


FIGURE 5 — HAMS AND BELLIES
HAM PRICES AS % OF BELLY PRICES
INDEX
1.5
1.4
1.3
1.2
1.1
1.0
0.9
JAN FEB MAR APR MAY JUN JUL AUG SEP OCT NOV DEC
MONTHS
74-75
82-83

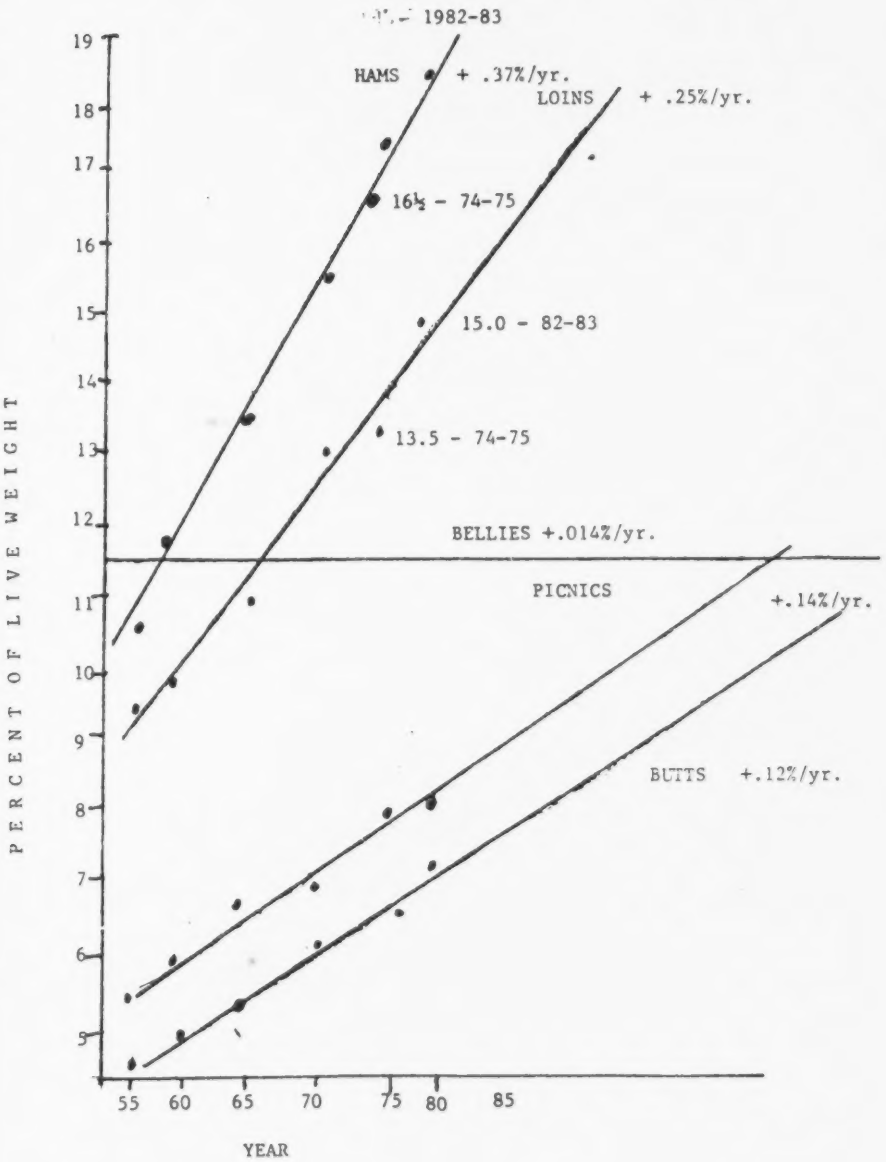
pork belly per 100 pounds of live hog has been relatively stable while pounds of ham per 100 pounds of live hog has increased by 15 percent between 1974-75 and 1982-83 (Figure 6). The 1982-83 hog also yielded 10 percent more loin than in 1974-75. These increases are mainly due to the progress made by producers to enhance the meatiness of their hogs.

If demand for pork bellies and hams had remained unchanged from 1974-75 to 1982-83, the price of ham in relation to pork bellies should have been reduced due to the larger supply of hams. Although supply of loin increased, loin wholesale price relative to pork bellies was about 20 percent higher in 1982-83 than in 1974-75 (Figure 7). Continuing the comparison, the wholesale price of bellies relative to price of live hogs declined by 15 percent in 1982-83 in relation to 1974-75.

According to our estimates, the income to the farm level of the pork industry has already been reduced by approximately $230 million annually from 1974-75 to 1982-83. The pork processing level, however, has lost $640 million annually in the same time period. We suggest that the loss of income at both marketing levels is due to the reduced demand for bacon caused by increasing attention to health considerations among other things.

FIGURE 6

YIELDS OF PRIMAL PORK CUTS AS PERCENT OF LIVE WEIGHT, *1950-TO DATE



* This chart prepared by:

Clifton Scientific Analysis Corp., P. O. Box 91, Harrison, AR 72601

FIGURE 7 — LOINS AND BELLIES

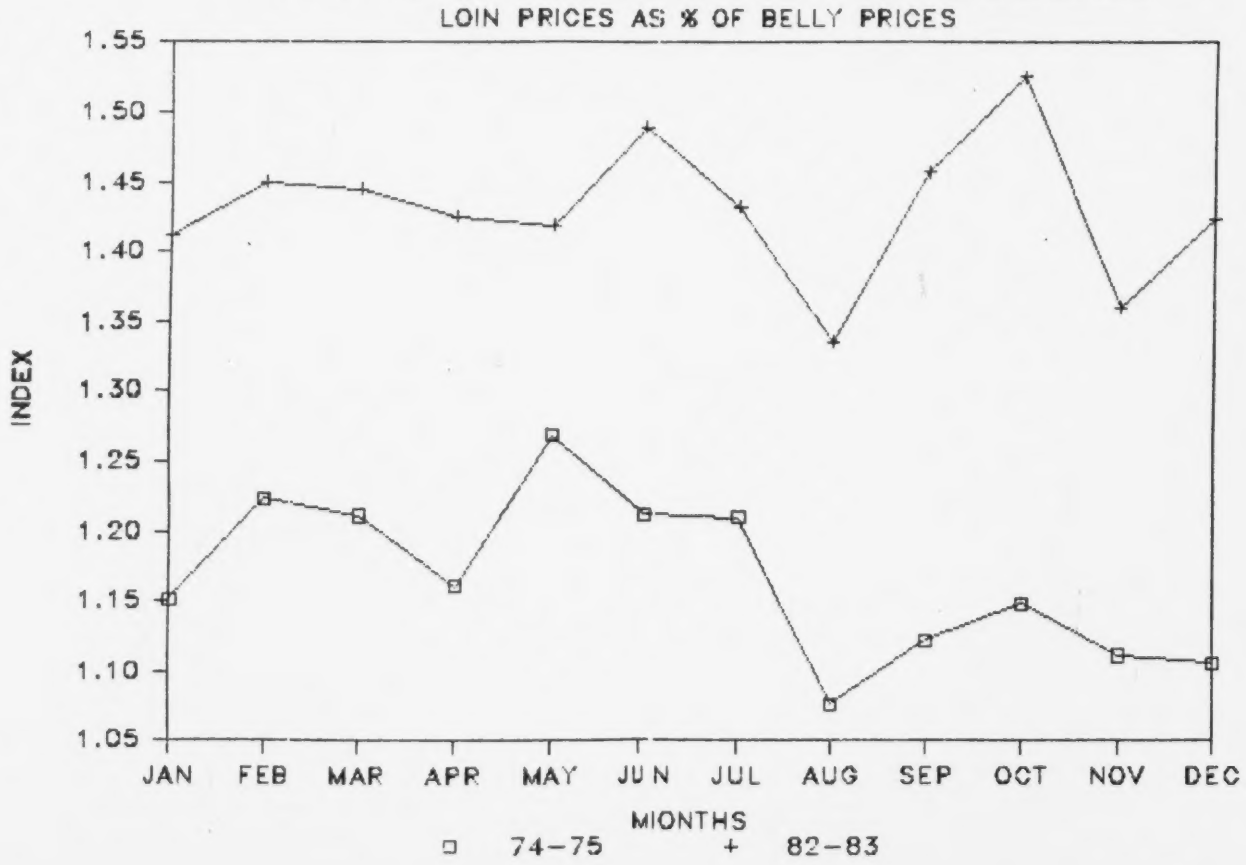
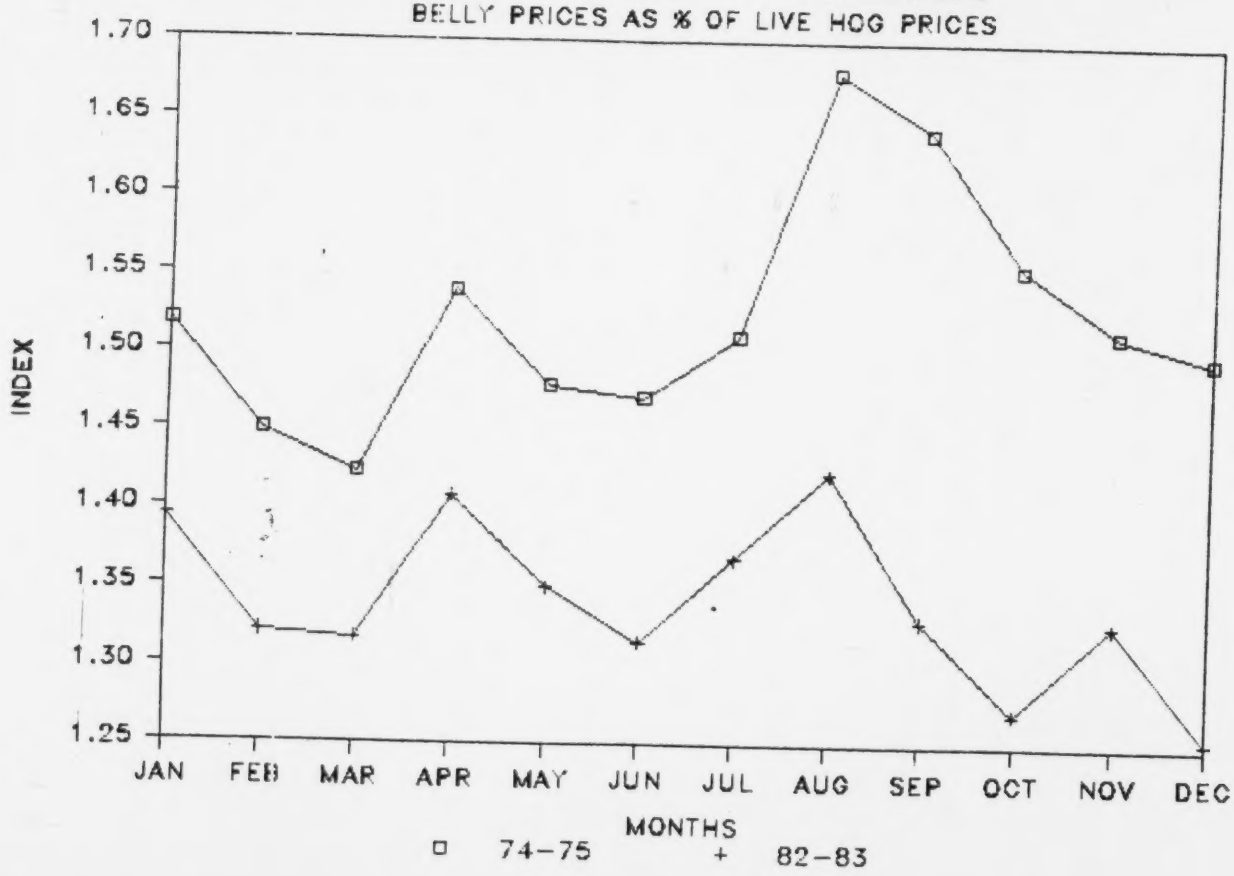


FIGURE 8 – BELLIES

BELLY PRICES AS % OF LIVE HOG PRICES



Estimated Impact of a Total Nitrite Ban

Most of the direct impacts of even a total nitrite ban would occur in the pork sector, since cured meats are still a very minor part of other livestock and poultry products. We will focus primarily on the pork sector but will extend the analysis to cured products other than bacon.

The impact of a nitrite ban begins with the elimination of products in which nitrites are used and extends through complex interactions to influence consumption, prices, production, inputs and other related sectors. We look first at the initial effect on hog carcass products and their value under restrictive assumptions, then drawn implications based on a comparison with the 5-year analysis above.

Pork products in which nitrites are used constitute over 50 percent of the hog carcass meat products. At retail these products combined are 3.5 times the quantity and value of bacon alone. Most of this can be converted to fresh products, but they would be lower valued products. Sides, shoulder and hams now used for bacon and ham would become fresh cuts, sausage and lard. The allocation to these uses at constant prices would be about 44 percent to fresh, 30 percent to sausage and 26 percent to lard (Table 3). In reality, this is not likely to occur, since consumers may not desire those additional quantities even at much lower prices. As an initial approximation, we have compared the value of pork products at constant prices with and without nitrite using products. Without nitrites, seven categories are no longer available, and there is a probable glut of sausage and fresh cuts (Table 4). Even with prices constant, the shift to lower valued products reduces the value of output by $5.0 bil. and the average retail price by $0.36 per pound. This is an extremely unrealistic case, since sausage consumption would have to increase by 3 1/2 times and fresh pork cuts by 2 1/2 times at fixed prices.

Table 3. Estimated change in hog carcass use after a nitrite ban, assuming no price changes (lbs).

		Normal Use[a]				No Nitrite Use			
Carcass Part	Total	Cured	Fresh	Sausage	Other[b]	Cured	Fresh	Sausage	Other[b]
Ham	39.4	20.1	4.1	3	12.2	0	24.2	3	12.2
Loin	32.9	--	30.9	-	2.0	-	30.9	-	2.0
Side (belly)	36.4	18.6	6.4	9.4	2.0	0	7.0	21.0	8.4
Shoulder	28.0	8.0	10.9	4.5	4.6	0	10.9	7.0	10.1
Miscellaneous	28.3	--	6.5	3.9	17.9	0	6.5	3.9	17.9
Total	165	46.6	58.8	20.8	38.7		79.5	34.9	50.6
(percent)	(100)	(28.2)	(32.6)	(12.6)	(23.5)		(48.2)	(21.2)	(30.6)

[a] Source: Meatfacts, American Meat Institute, 1983 Edition, p. 15.

[b] Skin, fat and bone.

Table 4. Retail pork products and value before and after nitrite ban (1982 levels).

Product	Normal Use[a]			No Nitrite-Constant P,Q		
	Price[b]	Quantity	Value	Price[b]	Quantity	Value
	$/lb.	bil.lb.	$ bil.	$/lb.	bil.lb.	$ bil.
Loin roast	1.60	1.1	1.8	1.60	1.1	1.8
Chops	2.39	1.4	3.3	2.39	1.4	3.3
Bacon	2.05	1.5	3.1	-	0	0
Shoulder picnic	1.15	0.7	0.8	-	0	0
Shoulder roast	1.45	0.9	1.3	1.45	0.9	1.3
Ham	2.65	1.7	4.5	-	0	0
Fresh sausage	1.88	0.8	1.5	1.88	2.9	5.4
Franks	1.82	0.7	1.3	-	0	0
Bologna	2.21	0.4	0.9	-	0	0
Canned lunch meat	2.30	0.2	0.5	-	0	0
Other fresh[a]	1.40	1.3	1.8	1.30	3.0	3.9
Skin, fat and bone	0.10	3.2	0.3	0.10	4.2	0.4
Total A	1.51	14.0	21.1	1.15	14.0	16.1
(percent change)				(-24)	(0)	(-23)
Total B[b]				1.07	12.0	12.8
(percent change)				(-29)	(-14)	(-39)
Total C[e]	1.46	13.2	19.4			
(percent change)	(-3.3)	(-5.7)	(-8.1)			

[a] Source: Table 2 and other information from Meatfacts, AMI, 1983 edition.

[b] 1982 is a high price year, so absolute prices and values may not be representative of other years. However, the relative prices and percentage changes are not significantly affected.

[c] Includes fresh ham, spareribs and miscellaneous.

[d] Assumes consumers substitute sausage for only 1/2 of bacon and 1/4 of franks and substitute fresh pork cuts for only 1/3 of hams and picnics. Under these assumptions the quantity of fresh sausage is 1.7 bil. lbs. instead of 2.9 and the quantity of "other fresh" is 2.2 bil. lbs. instead of 3.0.

[e] Assumes nitrate ban for bacon only and that consumers substitute other pork products for 1/2 of bacon lost.

In reality consumer demand for pork would decline as fewer and less desirable products replace numerous and favored choices. Prices of the few remaining pork products would decline due to oversupply. Lower prices and product values would lead to lower valued hogs at the farm level. Farmers would reduce production, and both production and prices would be lower for pork. Prices and production of other livestock and poultry products would increase as consumers seek alternatives to banned pork products.

A more realistic scenario is shown in "Total B" of Table 4. This looks from the consumption side at what consumers may desire to purchase. Assuming partial substitution of fresh cuts and sausage for ham, bacon and franks, the quantity declines by 14 percent, the value by $8.3 bil. or 39 percent and the price by 29 percent from the "normal use" case. By contrast, under similar assumptions, a ban on nitrite in bacon only would lead to a decline of $1.7 billion or 8 percent in product value. The impact of a total nitrite ban is nearly 5 times as great.

The bacon only (Total C) and all nitrite (Total B) results are compared with the 5-year analysis from the previous sector in the table below. The "bacon" results are conservative when compared to the 5-year study, because over time production declines further and prices rise in response. Similarly, the large price decline in the "all nitrites" case would lead to further production declines until prices returned to levels that would be sustainable. The value losses in the first few years of this adjustment would probably be greater than the 39 percent and in later years could be less, as prices rebound. It is difficult to say how much production would have to decline to bring this about, but it could be on the order of 30 percent.

Change in	CNFAP 5-year Ave.	Table 4 results	
	percent	Bacon	All Nitrite
Price	-1.2	-3.3	-29.1
Quantity	-6.6	-5.7	-14.3
Value	-10.6	-8.1	-39.3

Since hogs consume about one-third of corn and soybean meal fed in the U.S., the large declines in hog feeding associated with a total nitrite ban could reduce corn and soybean prices as much as $.50 per bushel. This would either mean a loss to corn and soybean producers of about $4 billion and $1 billion, respectively, or an increase in the cost of government programs to keep prices from falling.

Impacts on the Iowa Economy

The livestock industry is a multi-billion dollar component of the Iowa economy, with the farm value of beef and pork production in Iowa totaling $6.4 billion in 1983 -- $2.45 billion in cattle and $2.9 billion in pork production. While the Iowa cattle industry has declined from a peak of 4.68 million head of cattle in 1968 to 2.49 million head in 1983, the Iowa pork industry has grown in absolute numbers and remains in the range of 23 to 27 percent of total U.S. production. Since the use of nitrite primarily affects pork processing, this review of the economic impact of a nitrite ban focuses on the effects to the pork industry of Iowa and the consequences for related sectors on the input and product sides.

The contribution of the pork industry to the Iowa economy can be looked at in a number of ways -- in terms of income to producers, expenditures for production imputs, jobs created and others. This section provides rough estimates of the impact of the swine industry on Iowa's economy which are intended to be illustrative rather than analytical.

Iowa marketed about 22.6 million head of hogs or over one-fourth of the U.S. total in 1983. Iowa's proportion of U.S. production has remained fairly stable for many years. The 18.9 million head marketed in 1955 represented about 25% of the national output that year. While numbers marketed have fluctuated from year to year, the Iowa share of the national hog market has varied by only 4 percentage points from the high to low for the past 28 years (Table 5).

Table 5. Hogs Marketed in Iowa the Past 15 Years.

	1969-71	1974-76	1979-81	1982	1983
Million head	21.4	18.0	22.8	23.0	22.6
% of U.S. total	23.3	23.0	25.3	27.0	25.5

Receipts from hog marketings in Iowa totaled 2.9 billion dollars in 1983, which was approximately 28 percent of cash receipts from all farm sales. This 2.9 billion dollars represented a very significant income flow into the total Iowa economy. Much of the gross income from hogs was used to purchase the goods and services used in hog production or in the production of corn for the hog enterprise. A further breakdown, shown in Table 6, indicates the manner in which different parts of Iowa's economy shared this income stream.

Table 6. Approximate Quantities and Values of Inputs into the Iowa Hog Industry in 1983.

Item	Quantity	Value ($ millions)
Corn	330 million bu.	963
Supplement	1,684 thousand tons	588
Total Feed		$1551.
Labor	47.7 million man hours	262.4
Veterinary service and medicine		94.0
Machinery, fuel, equipment		60.8
Total Costs		$1968.2

Corn producers are major suppliers to the Iowa swine industry. Swine consumed approximately 330 million bushels of corn in 1983, with a dollar value of $96.3 million. Supplement, primarily hog concentrate, is another significant input. Hog production required 1.68 million tons of supplement valued at $588 million. The total value of feed fed to Iowa hogs was around

$1551 million. Hog production is also a major market for the labor on Iowa farms. In 1983 an estimated 15,900 full-time equivalent man years (3000 hours/year) were used in the production of hogs. If labor is valued at $5.50 per hour, the labor income for Iowa from hog production exceeded $262 million. It is estimated that Iowa farmers spent about $94 million for veterinary and medical services required in hog production and $60.8 million for machinery, fuel and equipment.

The hog industry also represents value added opportunities for the Iowa economy in the form of pork slaughtering and processing. Total employment in beef and hog slaughtering is estimated at 22,000 workers in 1983. Since pork production represents a greater percentage of processing, an estimated 16,000 workers are employed in pork processing plants compared to 6,000 in beef processing plants. The 20 million head of hogs slaughtered in Iowa represents 22.6 percent of total hog slaughter in the U.S. The location of these processing plants near sources of production provides employment opportunities and income sources for many rural communities of Iowa.

Economic Impact in Iowa of a Nitrite Ban

The previous discussion on the Iowa pork industry was intended to indicate its importance to the Iowa economy and provide a framework to assess the potential economic impact of a nitrite ban. Table 4 in this report provides an estimate of the impact of a nitrite ban on the retail value of pork production in the U.S. A decomposition of the total retail value impact into various components is presented in Table 7. Table 7 is based on scenario B, which represents the more likely case of a limited substitution of sausage for bacon and fresh pork for ham and picnics.

In 1982 the farm value of pork production represented 50 percent of the retail value, or $10.55 billion. Based on USDA estimates, other components of the farm to retail spread (or value added), are $3.59 billion to

Table 7. Impact of Nitrite Ban on Iowa

Value at level of Food System[a]	U.S. With Nitrite	U.S. Without Nitrite	U.S. Loss	IOWA With Nitrites	IOWA Without Nitrites	IOWA Loss
	($ Billion)					
Total retail value of pork products ($/mil.)	21.10	12.80	8.30	5.70	3.45	2.25
Cutting and merchandizing ($/mil.)	21.10	12.80	8.30	5.70	3.45	2.25
Transportation, warehousing & delivery ($/million)	15.86	9.63	6.24	4.33	2.59	1.69
Slaughter and processing	14.14	8.58	5.56	3.82	2.31	1.5
Farm value	10.55	6.40	4.15	2.85	1.73	1.13
Inputs to Farm						
Corn and feed	5.74	3.95	1.79	1.55	1.07	.48
Vet., Equipment & supplies	.58	.39	.18	.15	.11	.04
Labor	.97	.67	.30	.26	.18	.08
Management return and profit	3.25	1.39	1.86	.88	.37	.51

Margin estimates are based on data from "Developments in Farm to Retail Price Spreads for Food Products in 1982," USDA, ERS, Ag. Econ. Rep. No. 500.

slaughters and processors $1.75 billion to transportation, warehousing and delivery, and $5.24 for cutting and merchandising.

Using the "Total B" of Table 4, an estimated $8.3 billion of retail consumption is lost. At the farm level, this represents a loss of $4.15 billion of receipts to hog producers in the U.S. Using straightforward budgeting techniques and Iowa production technology, the value of corn and other feed to hogs in the U.S. is $5.74 billion. Under a nitrite ban, the reduction in hog numbers is not proportional to the reduction in retail value since there is less value per carcass. The reduction in farm level production in U.S. and Iowa is the 14 percent reduction in retail quantity indicated in Table 4. This adjustment creates an additional loss to the net income for hog producers while not resulting in as large a reduction of purchases from input suppliers.

The Iowa share of this loss due to a nitrite ban is estimated to be $2.25 billion at the retail level and $1.13 billion at the farm level based on carcass weights. Lower production levels, liveweight prices and values for the carcass, combine to reduce returns to management and profit by 58 percent.

Since pork production is a significant industry in Iowa, it is important to estimate the impact of the loss from a nitrite ban on the rest of the Iowa economy. A useful technique for this type of analysis is an Input/Output model which summarizes the series of interrelated transactions which take place within an economy following an initial shock such as a ban on nitrites. An Input/Output model of the Iowa economy maintained in the Department of Economics, Iowa State University was used to conduct this portion of the analysis.

The ban on nitrites was estimated to reduce the farm value of pork production by $1.13 billion in Iowa. Based on USDA margin estimates, this

represents a $1.5 billion loss at the processing level. Since pork processing represents a substantial value added in the pork industry and a nearly proportionate share of the processing is done in Iowa, the analysis of a nitrite ban was performed at the processing level.

Table 8 contains a summary of the estimated losses from a nitrite ban in terms of output, income and employment for various sectors of the Iowa economy. Based on these estimates, a nitrite ban could cause a total gross output reduction, direct and indirect, of $3.2 billion, an employment loss of 21,800 jobs, and a $535 million reduction in personal income. Meat processing in the manufacturing sector and agriculture are hardest hit, although the retail and service sectors would also experience substantial losses. This analysis is based on a strict assumption that the resources would not be employed in other uses.

The decline in employment in meat processing would be about 37 percent of current levels compared with a decline in agricultural employment of about 3 percent. The decline in value of output in agriculture, processors and total output of the state economy would be 10.6 percent, 38.0 percent and 8.8 percent of current levels, respectively. Other than hog producers, the sector most adversely affected is the Iowa processing industry, which is highly concentrated in processing pork product.

An additional source of potential loss to Iowa agriculture from a nitrite ban is through the decline in corn and soybean prices. If no government measures were taken to prevent it, the price declines of about $.50 per bushel for each crop estimated in the previous section would reduce the value of Iowa corn and soybean production by nearly $1 billion. This would make the total agriculture loss about $2 billion and the total state loss over $4 billion.

Table 8. Summary of Economic Impacts of a Nitrate Ban on the Iowa Economy, Scenario B.

	Employment	Output $ Million	Income $ Million
Agriculture	4457.0	1134.90	165.95
Ag. Services	264.0	5.73	2.65
Mining	34.5	2.89	1.81
Construction	409.2	12.05	9.34
Manufacturing	8473.4	1719.98	148.04
Transportation and Public Util.	743.5	71.49	34.77
Wholesale	1987.7	72.83	52.08
Retail	2413.6	52.48	34.99
Finance, Insur. and Real Estate	843.7	65.06	47.37
Services	2106.7	63.02	36.41
Government	57.0	3.90	1.80
Total	21,842.5	3204.36	535.22
Multipliers	2.97	2.14	2.96

Qualificiations

We did not evaluate the impact on consumers, as it is even more difficult than the production side. Consumers currently spend $10-11 billion on the banned products. The economic concept of consumers surplus tells us that consumers would be willing to spend even more rather than be deprived of the products. If these products were no longer available, consumers would substitute other food products, which they currently consider less desirable. Still, the net economic loss to consumers could well be as great as the loss to producers.

We did not evaluate gains to other livestock and poultry producers and processors. Since these sectors depend only to a minor degree on cured products, they would gain more from consumer substitution than they lost from the ban on cured products. These gains would be relatively much less important to Iowa than the losses in the pork sector.

The "all nitrite" impacts must be considered as indicative and subject to much uncertainty. The greatest uncertainty is what consumers would do, given some period of adjustment, when all these products are removed from the market. Economic measures of substitution are available for evaluating smaller changes, but they would not apply when products are completely taken away.

Citations

Brandt, Jon A., M.D. Judge and M.B. Sands, An Analysis of the Impact of a Nitrite Ban in Bacon Curing, Station Bulletin No. 200, Department of Agricultural Economics, Purdue University, August 1978.

Council for Agricultural Science and Technology, Nitrite in Meat Curing: Risks and Benefits, Report No. 74, March 6, 1978.

Hayenga, Marvin, V.J. Rhodes, J.A. Brandt and R.E. Deiter, The Changing Structure and Organization of the U.S. Pork Sector, in press, ISU Press.

U.S. Department of Agriculture, Nitrite in Bacon, ESCS-44, December 1978.

Senator GRASSLEY. I would like to call Dale Turnmire. He's here in his capacity to speak for the American Association of Meat Processors and the Iowa Association of Meat Processors. He's executive secretary of the Iowa Association and chairman of the Meat Inspection and Government Affairs Committee, and I want to say that I've known Dale for 10 years. I don't intend to be political when I say this, but you were very helpful to me in my first election to the Congress as a campaign chairman for me in your home county, and I want to acknowledge that, and I want to do that in a way that it doesn't put you on the spot, because you have always been active in this association because I knew of your activity when I served in the legislature and when I wasn't even your State Representative I had an opportunity to have a great deal of dialog with you as we considered all the Federal requirements that were being put upon the Iowa Legislature and indirectly upon the meat producers as a result of Federal legislation passed in 1967.

So with that introduction and a welcome, I would say proceed as you had planned.

Mr. TURNMIRE. Senator, since I am speaking not only for the Iowa Meat Processors Association but the American Processors Association, you have a copy of my testimony and it isn't that long. I would like to read it. I would not like to take the liberty of summarizing it since it is combined testimony. I do have some opinions or observations which I would be happy to make for the Iowa Meat Processors, should you want.

Senator GRASSLEY. Fine.

STATEMENT OF DALE TURNMIRE, EXECUTIVE SECRETARY, IOWA ASSOCIATION OF MEAT PROCESSORS AND CHAIRMAN, MEAT INSPECTION AND GOVERNMENT AFFAIRS COMMITTEE, AMERICAN ASSOCIATION OF MEAT PROCESSORS

Mr. TURNMIRE. My name is Dale Turnmire, the owner of Dale's Fine Meats, of Cresco, and the executive director of the Iowa Meat Processors Association and chairman of the Meat Inspection and Government Affairs Committee of the American Association of

Meat Processors. Today I am representing both the Iowa and the American Associations of Meat Processors.

As you know, Senate bill 1938, known as the Food Safety Modernization Act of 1983, would amend the Federal Food, Drug and Cosmetic Act, the Federal Meat Inspection Act, the Poultry Products Inspection Act, and the Egg Products Inspection Act. This legislation and its identical counterpart introduced in the House by Representative Edward Madigan would update and finetune our Nation's food safety laws.

It is an accepted fact that we in the United States enjoy the safest and most closely regulated food supply on this Earth. Consumer confidence in food products is at an alltime high, and the legislation being considered today will continue to protect the consumer and maintain the quality and the wholesomeness of the food produced in America. We strongly support this legislation.

The key features of this legislation as relating to the meat processor are:

A definition of "safety" for food additives.

The term "safe" would mean "a reasonable certainty that the risks of a substance under the intended conditions of use are negligible" In other words, a distinction would be made between an additive that is of negligible or trivial risk as opposed to an additive that would constitute a public-health risk. This rule of reason would for the first time be applied to food and color additives, animal drug, and pesticide residues, and make the law conform with current scientific and technological advances.

Senate bill 1938 would continue the Delaney clause provisions that prohibit the use of any additives shown to be a significant cancer-causing substance; 25 years, scientific analysis detected substances in the parts per million range, leaving undetected or invisible, minute levels of cancer-causing substances. Today, scientific analysis can detect substances in the parts per billion range. As a result, even trace and negligible amounts of certain substances are lumped together with significant-risk substances.

What this measure does is let our Nation's regulatory agencies employ the techniques of quantitative-risk assessment to isolate substances on the basis of what is a serious threat to humans and what is of negligible risk to public health. Another word for this method is plain, common sense.

In the meat industry, nitrites are an essential ingredient in bacon, hams, sausage, and other cured meat products for the following reasons:

First, it prevents botulism, a dreaded and painful bacterial toxin that can cause paralysis and death.

Second, it serves as a preservative, retarding the oxidation process.

Third, it gives cured meats their special flavor and appearance. Over 700 substances have been tried as a replacement for nitrate, but none has been found to accomplish the three important uses listed above.

Several years ago, a study was released in which rats were fed huge doses of nitrites and nitrosamines. To receive the same quantity of nitrosamines as the test rats received, an adult human would have to eat 15,000 pounds of bacon per day for an entire life-

time. Tests like this were shown to cause certain types of tumors in laboratory rats.

Under food safety law, even though there is no documented case of a single human being getting cancer from eating cured meat, a test—though later discredited—nearly caused the removal of the only effective means a meat processor has of producing cured meat products. Nearly every Iowa meat business would have been permanently closed because of the great dependence on the pork market in this State. Farmers and livestock growers would have lost their market. Consumers would be in great danger from meat spoilage, for there is no substitute for nitrite.

Senate bill 1938 would correct this inequity by looking at the validity of similar tests in relation to the public health benefits and risks of removing an additive from use.

Although no scientific proof exists that nitrite, in the quantities used to cure pork products, is harmful to humans, the effects of that nitrate scare, caused by those who cried wolf and hid their reasoning within the nebulous language of the Delaney clause, are still being felt.

The price that was paid in plant closings and loss of jobs due to public fears over nitrate was high. But an even higher price was paid in the loss of credibility for the pork and meat industry. That meant that a doubt was planted in the public's mind about nitrite. These folks bought less and found other cured meat substitutes, not because they preferred them, but because they were afraid for their health due to the great confusion and so-called scientific evidence being cited by those who wanted a ban on all nitrites in food.

And, if we are talking about economics, the loss of face and damage to reputation that the meat industry endured in these unfair attacks is a financial loss that no one could ever calculate.

Little, if anything, has been said about alternatives to use of curing agents like nitrite. Of course, constant refrigeration is an alternative, but a more expensive one, indeed. In these times of concern about energy costs, it is not a practical alternative. The usable shelf life of cured meat products is an integral part of their value to the customer. Without nitrites and the usable product life consumers know today 'that product becomes less of a value to the public. Another catastrophic loss will result for the meat industry when people look at alternatives to products that will spoil easily.

But the greatest economic loss that could ensue if the Delaney clause is not modernized and products like nitrite-cured pork items are prohibited comes in the area of public health. Older citizens, set in their ways, handle hotdogs, luncheon meats, or even hams the way they did all their lives. If a product has gone bad, they know it by the color change or odor. Without nitrite, those warning signals could be nonexistent. The same holds true for those who pack a picnic lunch in an inexpensive cooler, carry a bologna sandwich in a lunch pail, or send their youngsters off to school carrying meats in a plain paper bag, or even leave the groceries in the hot automobile while they stop off for some extra shopping or errands. The price for the loss of those lives, or the medical treatments the survivors would need is too terrible a sum to pay for the sake of perpetuating a rule that is long outdated. If strictly applied, neither the air we breathe, the water we drink, or the meats we cure

could survive the exacting and unreasonable language of the Delaney clause.

The meat industry in Iowa and throughout the Nation play an important role in making the United States one of the best fed nations in the world. Members of the meat industry are in the forefront of those who are concerned about the safety and wholesomeness of meat products and cooperate fully with every effort to protect and improve our food supply. We are distressed by the way in which Government is increasingly limiting our rights as consumers to decide for ourselves what we eat. Modern scientific testing technology has made the present food safety law obsolete. Under current law, any food additive that has even the remotest possibility of causing cancer is required to be banned.

Our present law must be changed from a no-risk to a risk-benefit basis. Senate file 1938 will achieve that purpose. Whether or not we are concerned with seat belts, artificial sweeteners, nitrite in cured meats, or other food additives, we believe that Government should not make our decisions for us, especially when the risk is so incredibly small, as in the case of bacon and other cured meats.

That's the conclusion of my prepared statement, Senator.

Senator GRASSLEY. You said you wanted to make some observations. Do you still want to do that?

Mr. TURNMIRE. Unless you have some direct questions.

Senator GRASSLEY. OK. I do.

First of all, I don't disagree with what you said, that maybe every business that you represent would be out of business if the ban had gone through, but let me play the Devil's advocate and say, "Come on, Dale, that couldn't have happened."

What would you put forth?

Mr. TURNMIRE. As an argument?

Senator GRASSLEY. Yes.

Mr. TURNMIRE. Well, in the State of Iowa, which I'm very familiar with, being the hog-producing State that it is, in 1977 I suppose there were approximately 375 small meat processing plants throughout the State, and it wouldn't take long for me to prove to you that on the average our slaughter ratio was five hogs for every beef in these small plants. And if you take into consideration what the gentlemen from Iowa State University said about that percentage of those hogs that would be used and have nitrites added to them and the markets that would be lost through that particular thing, it doesn't take very long to figure out that we wouldn't be in business because of the profit potential that would be lost, because we would then be dependent upon only beef slaughter. We might get some transfer.

And then the second part of it, the hogs we did slaughter, there'd be a less desirable cuts to be marketed. In our plants in the State of Iowa and across the Nation one of the things we really do, we really specialize in specialty sausage products and cured hams and bacon. That's part of our uniqueness over the large packers.

Therefore, it would have been a very devastating blow.

In addition to that, probably a lot of sausage items—it wasn't brought up about the other sausage items this would affect—bologna, summer sausage—you know, items that are predominantly

beef items, but carry, in some instances, as high as 30 percent pork products. And that would be lost as far as the blend goes.

Senator GRASSLEY. OK. How many businesses, you're talking about 375 individual businesses?

Mr. TURNMIRE. In the State of Iowa.

Senator GRASSLEY. OK. How many in America as a whole?

Mr. TURNMIRE. Approximately 7,000 to 8,000 of these small plants all the way across the State of Iowa [sic]. We're talking about—I suppose some refer to them as "Ma and Pa" operations.

Senator GRASSLEY. Would it be a few or mostly Ma and Pa operations, as opposed to big business?

Mr. TURNMIRE. I have to say that I represent the people that are smaller, as opposed to the large corporate businesses. Several of our plants are USDA inspected, but most of them operate under State meat inspections, and so on.

If you were to take a survey, I think that the survey across the Nation was something like they averaged about seven or eight employees.

Senator GRASSLEY. All of your members, of course, are consumers just like the pork producers are consumers as well; so they would be interested in a safe product, not only for the confidence that your customers would have in the product, but also for their own well-being as well.

Mr. TURNMIRE. Certainly. We're probably more consumeroriented than a lot, because we know—consumer Joe Blow down the street, we know him by personal name, and we're not trying to market to that individual through newspaper advertising, and so on, that lives 100 or a 1,000 miles away.

Senator GRASSLEY. What's the approximate number of employees in these businesses, so how many jobs would be lost in Iowa, and then, again, in the Nation as a whole, if all of your businesses would go under?

Mr. TURNMIRE. The gentleman from Iowa State referred to the fact that about 21,000 businesses. I don't know if they happened to take into consideration the small meat plants when they were making that particular analysis. We average about 7 employees per plant, and if you take it on that basis, on the basis of 350, we're talking about 2,500, approximately, jobs, with a loss of wages, I would say, in the State of Iowa, of about $3,250 million in wages.

Of course, being a small-town individual, I can recite to you the Chamber of Commerce explicative—you know, every time you spend a dollar, it turns to five in the community. So that would be a devastating loss to some small communities. Some of our plants are really the only big business in the whole town. When you're talking about a town of 300 people or 400 people, they're probably one of the only bigger businesses in the community—plus the tax loss of the investment.

Senator GRASSLEY. You know nitrites were found to be safe, and even though they were not banned, would it be fair to say it did tremendous damage to your people, your members?

Mr. TURNMIRE. At that particular time, I owned a slaughter-processing business, and I can assure you that in my own particular personal instance that I had approximately a 25-percent decrease in that year in hog slaughter—not because the producer wasn't

willing to keep slaughtering, but the fact that the ones that I could sell were greatly reduced, plus the ones that the producer was able to market for himself through my plant.

Senator GRASSLEY. I want to thank you for your testimony, and I can't say any more than we're grateful for small business being interested in this problem, and that we see that it does have an impact upon jobs beyond agriculture.

I'd now like to call Thomas Oeth. He is director of technical services for FDL Foods, Inc.

STATEMENT OF THOMAS F. OETH, DIRECTOR OF TECHNICAL SERVICES, FDL FOODS, INC.

Mr. OETH. My name is Tom Oeth, and I am director of technical services for FDL Food, Inc., with its principal offices located in Dubuque, IA.

Prior to October 1982 I held a similar position with Dubuque Packing Co. for 18 years.

Let me begin my remarks by noting that FDL Foods supports strong, sensible food safety laws. We believe that such laws are needed to ensure that our food supply remains safe and wholesome.

However, we believe that the current food laws need to be updated to a certain extent. Our concern arises from the fact that we operate four plants dealing with various aspects of meat packing. We have plants located in Iowa, Wisconsin, and Illinois, at which we employ more than 2,500 people, counting those that are involved in our sales throughout the country and in our livestock procurement in the tristate area.

We live in an era when it is somewhat fashionable to criticize Government professionals, whether merited or not. I am pleased to report that we deal with U.S. Department of Agriculture representatives on a daily basis, and find them, in general, to be conscientious and highly concerned about fulfilling their designated responsibilities. We strongly believe that the discretion provided by Senate bill 1938 is appropriate in light of the fact that our Government officials try to be reasonable and responsible in the performance of their duties.

From my personal experience, I take pride in the fact that the American farmers, food processors, food packagers, and food retailers have developed and sustained the best and safest food production and delivery system in the would. The present laws governing food safety are so rigid as to mock the accumulated knowledge that these people have brought to our food delivery system over the past several years.

I served in my capacity with Dubuque Packing Co. in the late 1970's when an MIT report indicated nitrite was carcinogenic in laboratory animals. The present laws mandated that cured meat such as ham, frankfurters, and so forth, be banned from the distribution system, based on that report.

We feel that the lack of discretion in current food laws nearly caused total disruption in the processed meat industry. We believe that a law which eliminates judgment and discretion in such a situation is a poor law.

We find no provision which would permit Federal officials to balance the known risk of botulism against a theoretical risk of cancer at the time the MIT report was issued. We feel that there are adequate officials working for the Federal Government in the various agencies to have taken that study and pursued the line of inquiry raised by the study in determining what would be a proper and safe response to the issue.

The present laws eliminate that judgment factor. What we have is a judgment by Congress, that certain things must occur, even though Congress had no specific knowledge at hand when the specific law was passed.

The banning of sodium nitrite would have severely harmed meat packers throughout the country. Without nitrite, a substantial portion of meat foods could not be produced in this country. Safety considerations have generally prohibited the production of some nitrite-free meat products. Canned hams are an example of this point.

At FDL we annually produce in excess of 70 million pounds of cured ham products, while the demand for fresh, uncured ham is a minor part of our total business. Our total cured meat sales exceed 160 million pounds per year. It is our judgment that had FDL been in operation at the time nitrite would have been banned, we would have had to lay off in excess of 1,000 employees in our processing departments, pending development of alternative means for delivering our meat products to the consuming public. Indeed, we may have been left with no option other than to sell fresh meat, and be unable to provide employment to these processed meat department employees.

We are not trying to focus your attention solely to economic problems facing FDL Foods. We believe that this proposed bill brings up a positive opportunity to enact sound, fair federal laws, which will provide high quality, reasonably priced food to the American consumer. This should be the goal of all involved parties.

We believe that Senate bill 1938 is a step in the right direction.

I want to thank you for the opportunity to appear before this committee and to present our views. I'm available if you have any questions that you would like to pursue.

Thank you for your time.

Senator GRASSLEY. I think you answered some of my questions, but let's, for emphasis, go back anyway.

You made the comment just now—and this would have been back in 1978, if this ban had gone through, and that was when you were at Dubuque Packing, that 1,000 employees would have lost their jobs.

Mr. OETH. That would be the immediate processing department employees, the people that make hams, bacon, frankfurters, bologna, luncheon meat, corned beef.

Senator GRASSLEY. OK. So that was just the processing department. How would that have affected the overall viability of your corporation?

Mr. OETH. We slaughter beef along with pork, so it would not affect our beef operations. But how it would affect our pork operations was handled by the people from Iowa State, and I really don't know—I'd hate to see the premise tested.

Senator GRASSLEY. It could be catastrophic?

Mr. OETH. It could be. It depends on whether the consumers would buy fresh pork in other forms, buy pork in forms that are not cured, that they're not used to. In other words, bologna without the nitrite would be white bologna.

Senator GRASSLEY. I'd like to know your view as to how you think most consumers really distinguish between nitrite-cured meat and meat in general. In other words, don't you think that most of the meat sector was hurt by the nitrite scare, regardless of whether it was the nitrite or not, because people generally don't distinguish between the two. Do you disagree with that premise?

Mr. OETH. I agree with it with some reservation, the reservation being the fact that I think a lot of people look at the meat products in product categories. They don't think of it as being cured meat; they think of it as being a ham, etc. Most people would associate a processed ham with the red color, something that you can keep in the refrigerator for a week, versus a pork chop, which you can maybe keep in your refrigerator for 2 days before it gets stale, and when you cook it, it turns out white or brownish compared with a bright red from a cured product.

Senator GRASSLEY. Would most sectors of the meat industry be hurt as a result of the nitrite scare, or are you saying that they may not?

Mr. OETH. If you were producing nothing but beef, you would probably be helped. Anybody producing pork would be hurt.

Senator GRASSLEY. Thank you very much for your testimony and, once again, thank you for allowing your company to cooperate in our effort to get these questions answered.

I'd like to now have Dean Kleckner, of the Iowa Farm Bureau Federation; Peter Croghan, Iowa Farmers Union; Steve Daugherty, Iowa Corn Growers Association; and Dave Kozisek, National Farmers Organization.

Would you all come forward at the same time, please? I guess you are all coming at the same time, so pardon me.

I guess I should ask Dave to go first, Dean second, Pete third, and Steve fourth, because that's the way you're listed here.

STATEMENT OF DAVE KOZISHEK, IOWA DIRECTOR, NATIONAL FARMERS ORGANIZATION

Mr. KOZISHEK. Thank you, Senator.

I'm Dave Kozishek, a farmer from Iowa County, and director from Iowa of the National Farmers Organization. And thank you, Senator Grassley, for conducting this field hearing and requesting input from the producer segment of the food industry.

I might add that I didn't go into a lot of statistical details because of the study done by Iowa State University, which we highly depend on for that type of information, not having the resources to conduct those sorts of studies.

The primary purpose of our organization is to negotiate contracts for the sale of farmers' products at a profitable level.

Two very important factors in negotiating are having a quality product to sell and be desirable for consumer acceptance. These are

especially important in food products such as meat that have little processing and are consumed very close to their natural state.

There is much awareness today of the precarious economic situation that the livestock industry is in. Less livestock puts more stress on intensive grain crop production which, in turn, creates more problems in soil and water conservation. It further adds to the contamination of our water and food supply by the increased usage of petrochemicals used to control weeds and insects.

Iowa's major economic base is still agriculture. In fed cattle marketings we have gone from 4.5 million head in 1970 to 2.5 million head in 1983. At $600 per head, that's a loss of $1.2 billion not being produced per year. That's at the producer level.

In hogs, the numbers have been more stable, with a 6-percent increase in 1983, but the most recent report, June 21, showed a 9-percent decrease, which is about 22.5 million head per year. A loss of 2 million head annual production is approximately $20 million. And of course this does not consider the income from the farmer moving through the Iowa economy; this is strictly at the producer level.

This is a tremendous erosion on the Iowa economy. There definitely are other factors involved. No doubt the scares on DES and nitrites have been costly and had some effect. It is difficult to determine how much of the decline can be attributed to food additives, which may be necessary to assure a safe product. We recognize that some eating habits are changing, and we, as producers, need to consider that in our production methods.

It is beneficial to all of us, producers and consumers alike, that we have high quality standards on grading and additive content that should be shown on the label, along with nutritional information. These same standards should also apply to all imported food products. We are all interested in having a safe food supply.

We support the concept of the Food and Safety Modernization Act of 1983. I believe it can maintain the safety standards required. This will be determined primarily by the way the law is administered and safety level determination.

Continued up-to-date research will also be necessary to have the newest technology available for profitable production by the farmers and ranchers, and to assure the consumer of a safe and nutritious product.

Thank you for this opportunity to express our thoughts.

Senator GRASSLEY. I'll ask questions of the whole panel, so go ahead, Dean.

STATEMENT OF DEAN KLECKNER, PRESIDENT, IOWA FARM BUREAU FEDERATION

Mr. KLECKNER. Thank you, Senator Grassley, for asking me to appear before this committee and present testimony on behalf of the 150,000 family members of the Iowa Farm Bureau Federation.

My name is Dean Kleckner. I farm in northern Iowa in Floyd County, and have served as president of the Iowa Farm Bureau since 1975.

Food safety is of paramount importance to Iowa farmers. Current American Farm Bureau Federation policy states in part, "We sup-

port the production and marketing of pure, wholesome food. Modern agriculture cannot continue to provide sufficient quantities of high-quality food, fiber and other agricultural products to meet the Nation's needs without the judicious use of agricultural chemicals and drugs. Any undue curtailment of the safe and appropriate usage of these products will result in lower quality and/or quantities of food and fiber at higher costs to consumers."

Farmers have the responsibility to assure our consumers that the quality of the food we supply is wholesome and safe. In order to do so, we must at times use certain products such as nitrites.

Senator, I raise hogs in Floyd County and did during the nitrite scare in the late seventies, and I just hesitate to guess what a total ban on nitrite use would have meant to my operation and to the operation of thousands of other farmers.

I quote here a news release from CAST, of 1978, and I think the Iowa State folks here today updated that, but they put an economic value of a loss of billions, and they said that those most affected would be consumers. I'd agree with that, and we heard that again today. And they put the loss from the unavailability of just one product, bacon, at about $4.7 billion.

Now, those above-mentioned figures are based on the unavailability of a product, but it's equally injurious to the farm economy when consumer confidence in a product is shaken. One need only look to the recent concern over the quality of drinking water in Des Moines. Consumers were given conflicting reports on the safety of drinking Des Moines tap water. But based on this fear, real or imagined, consumer preference was quickly manifested. If Des Moines depended upon water sale revenue for its operation, it would have been severely hamstrung by this report.

Any discussion of food safety must address the topic of the Delaney amendment. The Iowa Farm Bureau Federation and the American Farm Bureau support the adoption of S. 1938, the Food Safety Modernization Act of 1983. This bill addresses many of the concerns we have with the Delaney amendment.

Current American Farm Bureau Federation policy states:

> Food safety laws should be amended to provide for a scientific advisory committee to review actions to deny or repeal food additive decisions; require consideration of the availability of alternatives, and other factors associated with use, before denying or repealing a food additive; and permit a gradual phaseout of a food additive rather than an immediate ban.

Other organizations have recognized the need to provide flexibility in the administration of the Food, Drug and Cosmetic Act. The American Medical Association, in testimony filed with this committee, also supports the adoption of S. 1938.

The American Medical Association states:

> The existing Delaney Clause unduly restricts the Food and Drug Administration's ability to utilize its best scientific judgment in establishing appropriate food safety policy. The clause unequivocally compels the Food and Drug Administration to ban a substance if it has been shown to induce cancer in man or animal when used as intended. The Food and Drug Administration is not permitted to consider the degree of risk involved or the benefits which may be derived from use of the substance. We believe that with the increasingly sophisticated ability of scientists to detect weak carcinogens in the food supply, Congress must allow the Food and Drug Administration to exercise greater discretion or the agency will be forced to ban many food additives, notwithstanding the degree of their benefit in relation to the slight risk presented by their use.

We often chuckle when hearing reports of various additives which are being tested by the Federal Government for their potential cancer-causing properties. It has been reported that the Department of Health and Human Services was considering banning the use of a red dye used in foods such as maraschino cherries. The dose they fed to the rats was equal to a 157-pound man consuming 700,000 20-ounce cans of fruit cocktail contaning red cherries every day of his life—and that would kill anybody. Nevertheless, we must not brush aside those reports as ludicrous, as they may be the cause for a dramatic change in consumer preference.

In conclusion, rural America has no greater concern than with the safety and wholesomeness of the products we produce. If a product is found to be defective, it will meet its fate in the marketplace, as well it ought to. We constantly strive to be a reliable supplier of agricultural products in not only domestic, but also in the foreign market. The health of our children must never be compromised, and I can assure you, Senator Grassley, we're not going to waiver from this goal.

Thank you.

Senator GRASSLEY. Thank you, Dean.

STATEMENT OF PETER T. CROGHAN, PRESIDENT, IOWA FARMERS UNION

Mr. CROGHAN. Chairman Grassley and members of the Senate Committee on Labor and Human Resources. My name is Peter T. Croghan and I am president of the Iowa Farmers Union. Iowa Farmers Union appreciates the opportunity to take part in the hearing today.

Farmers Union has always been involved and concerned about legislation that has an effect on the quality of food we provide for people across this land. We have also been concerned about legislation that allows the results of faulty studies to be reported to the public that later turn out to be unfounded.

Three cases I can mention here are the cranberry scare, the saccharin report, and the nitrate report. The cranberry report was released just a few days before Thanksgiving. At that time, stores had spoiled cranberries to dump. Many people who had purchased them, threw them out. It was announced shortly before Thanksgiving that they weren't safe to eat. I know we had cranberries in the refrigerator that we threw out. You could go to the store that year and there was all kinds of them spoiling in the stores, and they had to dump them out. By Christmas of the same year, they had decided that the report was in error, but the damage had been done to the cranberry growers as well as to the grocers across the country.

The financial loss can probably be seen more readily here than in the nitrate but the results are the same. The amount lost in income to the farmers can be discussed but the damage has been done. People would have to eat several hundred pounds of bacon a week over a long period of time to reach the nitrate level that the laboratories gave to the animals that got cancer. The pork producers' representatives will undoubtedly provide more figures.

In addressing the Delaney clause, I will support that it either be made more flexible to allow for the scientific advancements since it was passed, or defeat it.

As a food producer and consumer, I want a safe and good quality of food, but we need to use some commonsense.

We know that fumes from an automobile will kill people in an enclosed place, but we don't outlaw them. I wonder if this might not be true of high level of some of the things that they test in laboratories.

Again I want to thank you for coming to Des Moines. We have a problem that has to be changed.

Senator GRASSLEY. Thank you, Pete.

STATEMENT OF STEVE DAUGHERTY, IOWA CORN GROWERS ASSOCIATION

Mr. DAUGHERTY. Thank you, Senator. It is indeed a privilege and a pleasure to be here this afternoon and address this issue.

We have a tremendous interest in this topic for a number of reasons and, of course, first and foremost is the simple fact that producers are consumers, too, as has been brought out. We, as much as anyone, do not want to eat or drink something that could be harmful to our health.

In addition, corn plays a very interesting role in the food chain. Corn is of little or no value as it comes out of the combine—something we don't think about often—but corn, as it sits, has to be processed, either through livestock or through a milling process, so that it becomes either food or some other form that's a usable product.

Because of its versatility, corn shows up in just about everything. A recent supermarket shelf survey indicated processed corn was used in more than 3,000 products. This, by the way, was in a Washington supermarket, Senator.

Of course, the livestock market remains our best customer. It's estimated that 4.2 billion bushels of corn will be consumed as feed this year. That's likely going to equal about half of the total corn supply.

So in corn, we have a product that's used both directly and indirectly as food. This means it is particularly sensitive to the laws, rules and regulations governing the food chain.

I know of your particular interest in the nitrite situation, Senator, so I'll consider for a few moments the impact a nitrite ban would have had on the corn industry.

In 1979, the U.S. corn crop totaled nearly 8 billion bushels, which was a record for the time. Iowa grew 21 percent of that crop, or 1.6 billion bushels, which also was a record.

The national average farm price for corn at that time was $2.52 per bushel, giving the national crop a value of $20 billion, and the Iowa crop a value of over $4 billion.

Now, 4.5 billion bushels of the U.S. crop went to feed livestock that year, which is an all-time record. And the $2.52 per bushel rate makes that worth $11.3 billion. And we generally believe that half of the Iowa crop is fed. So about 831 million bushels of corn,

valued at over $2 billion, went to livestock the year that this ban was being discussed.

There should be no doubt that the nitrite ban seriously threatened the profit potential for corngrowers. In fact, in this case, we're looking at a double or triple whammy, since most of the fellows who produce pork also grow corn. It would be a rare pork producer who doesn't have a field of corn somewhere. We've all seen in recent months, of course, that when farmers suffer economically, everyone suffers economically. This would blow a tremendous hole in the corn market. As discussed earlier by Dr. Meyers, 50 cents a bushel, if you were to consider devaluing the crop that amount, you're looking at $18,000 on $3 corn—based on 300 acres of corn at 120 bushels per acre. Now that's about what the average person earns in a year. And the argument could be made, perhaps, that that's money that was never had, so it couldn't be lost. But I would suggest that even at a nickel a bushel, if you tried to devalue a paycheck $150 a month, you'd hear a great hew and cry about that.

So I suggest to you, Senator, that that is very real, when you talk in terms of devaluing the corn crop.

The real culprit here, of course, is the so-called Delaney clause, which forces us to pursue the unattainable—zero risk. Life itself, of course, involves risk. We can't get up in the morning with a guarantee that risk will not be faced. Therefore, we have to weigh the benefit against the risk, and wonder if it's going to be worth getting up in the morning. There are some days when perhaps it isn't, but generally speaking, we try to do so anyway.

The goal here would be to minimize the risk and maximize the benefit of life's activities which, of course, include eating and drinking.

The corn industry just last fall went through a food-related risk brought about by poor growing conditions. Aflatoxin, a toxic substance produced by a mold, was found to be in some corn grown in parts of the State where the crop was under stress from drought. Exporters received notice from foreign countries that they would not accept Iowa-origin corn, even though the problem was widespread across the Corn Belt. Here we see a case where a scare has a direct impact on the bank accounts of farmers.

Federal rules limit aflatoxin amounts, as you know, to 20 parts per billion in corn for human or dairy cow consumption. The question should be asked, how much is that? Well, a single kernel of aflatoxin corn in a 250-bushel wagon equals 44 parts per billion—which would make it no good. A kernel in a 1,000-bushel semitrailer truckload of corn would be 10 parts per billion, and a kernel in a 3,000-bushel railcar would be 3.4 parts per billion.

The export problem came about particularly because some countries require their grain to be aflatoxin-free.

If we really trust our measuring abilities—and I understand that as we get down to less than 10 parts per billion some analytical chemists question that; they think that the motor noise in the machinery could actually register that amount, and they get very skeptical. If we would like to trust that, then I suggest perhaps our sampling techniques would be open to suspicion, when you're trying to find one kernel of grain in a wagonload.

The lack of international standards in cases such as aflatoxin is compounded by the frequent lack of a Federal policy. The EDB situation already alluded to is a perfect example of some State governments setting tolerance levels more stringent than the Federal Government's.

In the case of EDB, news accounts, once again, left the erroneous impression that a significant percentage of U.S. grain, including corn, was contaminated. In fact, only very small amounts of grain were involved, and the properties of the chemical are such that any danger was all but eliminated in a few days' time.

Corn growers, Senator, are affected whenever access to their markets is restricted. And the fact that food safety laws have not come close to keeping up with technology has provided corn growers with too many chances to lose money needlessly. The Iowa Corn Growers Association encourages you to address that problem, by amending the Delaney clause to allow for some element of risk, and an opportunity for judgment.

This, we believe, will be even more important in the future, as new genetic materials are made possible and there are opportunites for substances and techniques which are not yet even dreamed of becoming commonplace.

Flexibility is an absolute necessity.

Thank you again, Senator, for this opportunity. The Iowa Corn Growers Association commends you for your interest and your active involvement in this arena.

Senator GRASSLEY. Thank you all.

I'd like to start out by suggesting that some of my questions or comments aren't indepth and are a repeat of others, but I think that we've been dealing with this issue long enough that common sense ought to rule, and sometimes common sense is an answer to some of these questions, but I would like to have your perception.

This is the same question I asked Bob Lounsberry, but I'd like to have it on reflection, now 5 years later. When we were facing this nitrite scare do you feel that we took the right course at that time? Or, did we overreacted at that time? And, did we do anything at that time, besides stopping the ban that still has a beneficial impact today, as you look back right now to 5 years ago?

Let's start right across, go from left to right.

Mr. KLECKNER. Yes, Senator. I think the proposed ban—I don't know how you could describe what it could have done to agriculture in Iowa. We're hog based. It was aimed right at bacon and hogs. We grow 27 to 28 percent of them in this State. It would have devastated Iowa. And I think you were justified in doing what you did, to try to get some commonsense. And, as you point out, that's all that was required here, was common sense.

We don't want products that are harmful. In the end, that gets us also, the farmer. Just use common sense and we'll get along. And I applaud that it was done.

Mr. DAUGHERTY. I agree with that, Senator. The very idea of a ban was detrimental to farmers. And I applaud your actions in stopping that ban.

We live and work in a climate that's very emotionally affected. As you well know, when it rains in Chicago, the price goes down. And when you even talk about such things, it affects the market-

place. There's a lot of psychology involved, and any time you can introduce some common sense into that would certainly have to help.

Mr. CROGHAN. I'd agree that I don't think we overreacted. I think a lot of these results have to be questioned. I think that's why we've got a Congress. I think that's why we've got the Food and Drug Administration. There's an awful lot of people that can get carried away, you might say, with a little authority, and overreact to situations.

Mr. KOZISHEK. I believe that if there was any overreaction it was from the point of wanting a complete ban immediately, because of—well, the other fellows brought it up here, and I didn't go back and research the hog market for that particular period of time, but recalling from memory, there was a tremendous drop in price immediately when the ban was talked about, and it was primarily from the reaction of the consumers and the industry not knowing whether you could continue to sell the product as meat or not, whether the consumers would buy it or not, and it had an immediate impact on farmers and the rest of the—not only the Iowa economy, primarily Iowa, but the rest of the States that produce hogs also.

I think you have got to have, when you have a survey like that that comes out, you've got to have an immediate investigation into it to get some solid statistics. Of course, it was later found that the ban was uncalled for, that it continued to be a safe product.

So it's hard to say whether you had an overreaction. It had a tremendous impact on a lot of people.

Senator GRASSLEY. You probably don't have to answer this, any of you, only if there'd be disagreement with what I assume would be your perception. You had the benefit of Iowa State University's economic analysis, and I had it, for the first time, today, as they tried to project where we would be today or where we are today because of the nitrite scare, or where we would be because of a nitrite ban. Is there any disagreement with that analysis? I know you don't have the benefit of the study, but I'm talking about now your perception. I assume your perception would be that there's a permanent economic loss to some extent, and if the ban had gone through it would be an even greater economic loss.

You're nodding your heads, so if there's no disagreement with that, then I'll move on, but I want to get that for the record. If anybody wants to add to that, you may do so.

Mr. KLECKNER. The only thing I would say is that we constantly strive in this State—all of agriculture—to get more value-added products. And meat, obviously, all meat is value-added. We ought to be exporting more meat, and feeding more of the corn in this State, walking it out of the State rather than shipping it down the river. And if this ban had taken effect—if the nitrite ban had taken effect, it would have meant that to get rid of the corn that we produce in the State, we would have had a lower price, as I'm sure the study pointed out and the corn growers pointed out, and we would have exported more bushels of corn rather than exporting the livestock as a meat, that we need to.

I just wish we didn't export any corn. I wish we fed it all in this State, but that's not going to happen.

Senator GRASSLEY. My next point was right along that line, and it came from David's testimony, about the additional stress on grain crop production with the loss of livestock. We even saw this last year in southern Iowa as a result of the drought. Probably today farmers in southern Iowa are plowing up land, that would otherwise have been used for livestock grazing, for further crop production in highly erodable land. And I assume your comments would be similar to what Dean just said in regard to that, but if there's any further comment on what David said, I'd appreciate it.

Mr. DAUGHERTY. Senator, I would go along with what you said.

I'd like to also add that, assuming that farm programs stayed the same and farmers produced the same, there would have been some additional storage payments to take into account also in the economic impact.

Senator GRASSLEY. Last, one of the main points I'd like to take back to Washington with me, and one of the reasons for emphasizing it with almost every witness today, is that Iowans are producers as well as consumers, and as consumers share concern about the safety of food.

Another point that I'd like to help dismiss is the misconception that food safety is a matter that pits big business against consumers. My point is that we are also talking about the small family farmers and businesses as well—your members, Dale Turnmire's members. If you have any disagreement with that, or anything you want to add to these misconceptions that we're trying to make clear here today, I'd appreciate it. If not, all right. But I just want to emphasize those points. I think your membership as family farmers make clear, very clear, what we're talking about.

OK. I want to thank you very much for your testimony.

The last panel I'd like to introduce, of three members, are Chuck Bjustrom, National Pork Producers Council; the Iowa Cattleman's Association, Marshall King; and the Iowa Pork Producers Association, James Ryan, Jr.

I apologize to you for running a little bit late, but we aren't too far behind. It's right now 4:25, and we'll run by for a period of time that is necessary to listen to your testimony.

Go ahead, Chuck.

STATEMENT OF CHUCK BJUSTROM, EXECUTIVE COMMITTEE MEMBER, NATIONAL PORK PRODUCERS COUNCIL, DES MOINES, IA

Mr. BJUSTROM. Thank you, Senator Grassley, for the opportunity to come and give testimony in regard to the National Pork Producers Council's opinions. I also share similar opinions, being a producer from Iowa, in regard to the same testimony.

We appreciate the opportunity to present our position on S. 1938, the Food Safety Modernization Act of 1983, and food safety legislation in general, and offer recommendations for the committee's consideration.

The National Pork Producers Council has over 110,000 dues-paying producer farm families in 38 member States. It is funded entirely by a voluntary checkoff program, which collects two dimes

per market hog at the marketplace. Producers who voluntarily participate number well over 200,000.

Pork producers have had firsthand experience with the application of the present law—an experience we can't afford to have again—from the mishandling of scientific data. There is no need to repeat the whole story of the Newberne report on the testing of nitrites for carcinogenicity, or the hasty, unwarranted actions taken by FDA and the USDA. Suffice it to say that various studies by private organizations of the Newberne report, which served as the basis for this devastating announcement by the Government agencies, revealed severe reservations about the report conclusions.

Over the next 2 years, study after study of the Newberne report raised serious questions about its reliability as a basis for the announced need to discontinue the use of nitrites. Finally, on August 19, 1980, 2 years after the original announcement, the same agencies issued a statement based upon a comprehensive study by pathologists and a governmental committee of scientists, "that insufficient evidence exists to support a conclusion that nitrite induced cancer in rats based on the MIT—Newberne—study. As a result of the review and evaluation, we have concluded there is no basis for the FDA or USDA to initiate any action to remove nitrite from foods at this time."

During the 2 years that the cloud of carcinogenicity hovered over the cured meat products, especially bacon, the pork industry lost a billion or more dollars because of the depressing effect on the consumption of these pork products.

It is impossible to determine accurately how much this unjustified cloud of carcinogenicity reduced the consumption of pork products. One estimate, which is easily understood, is that prior to the cancer scare pork bellies normally sold for between 1½ to 2 times as much as live hogs. In other words, if hogs were bringing $40 per hundredweight on the hoof, bellies would be selling for $60 to $80 per hundredweight.

For the 2 years while cured products were under suspicion because of the nitrite scare, they usually sold for the same price as live hogs, or sometimes less. During these years, 1978-80, there were over 80 million hogs a year slaughtered.

We have been participating for several years with other farm, food and agribusiness organizations in the development of revisions of our food safety laws. Although a final version has not been reviewed by our council, we find that most of the thrust of the bills we have reviewed are consistent with our position on the changes needed in our food safety laws.

The National Pork Producers Council has had an ad hoc committee on food safety legislation for over 3 years. At our first meeting, we met with representatives of the FDA, the Food Safety Council, the American Meat Institute, and with former Congressman Wampler of Virginia and Congressman Martin of North Carolina. We also met with members of Congressman Foley's staff while he was chairman of the House Agriculture Committee. As a result of these deliberations and our continuing review of the issues, National Pork Producers Council has had a position on food safety law changes for 3 years. The principal points of our policy are:

The present body of food safety laws are outmoded, inflexible, inconsistent, and cause an erosion of consumer confidence in the safety of our food supply.

The Delaney clause of the Food, Drug and Cosmetic Act, and the Federal Meat and Poultry Inspection Act needs amending to include consideration of both health benefits and health risks in food safety policy.

Current food safety laws embody a no-risk policy. This no-risk policy cannot accommodate our Nation's latest technology that can detect the most minute traces of substances. Nor does it permit the type of regulatory flexibility necessary to address the complex, scientific, economic, and political questions that inevitably arise in these situations. A concept of acceptable risk, based upon scientific proof, is needed.

We list in our testimony modifications to the food safety laws which should be considered for the purpose of modernizing them and making them compatible with other existing health and safety laws.

A careful study of our policy and Senate file 1938 reveals that most of these points have been reflected in this bill. We can, therefore, endorse this bill in general, but we have recommended certain amendments in submitted testimony.

Senator Grassley, we thank you for the chance to testify here, and this completes our testimony.

Senator GRASSLEY. And your specifics are here in the rest of your testimony that you didn't go through.

Mr. BJUSTROM. Yes; in more specifics.

Senator GRASSLEY. Without objection, it will be inserted into the record at this point.

[The prepared statement of Mr. Bjustrom follows:]

NATIONAL PORK PRODUCERS COUNCIL

P.O. BOX 10383, DES MOINES, IOWA 50306

STATEMENT TO THE

U.S. SENATE COMMITTEE ON LABOR & HUMAN RESOURCES

DES MOINES, IOWA

JULY 2, 1984

PRESENTED BY: CHUCK BJUSTROM, WHITTEMORE, IA
NPPC EXECUTIVE COMMITTEE

Mr. Chairman and Members of the Committee:

We appreciate this opportunity to present our position on S. 1983, the Food Safety Modernization Act of 1983, and food safety legislation in general, and offer recommendations for the Committee's consideration.

The National Pork Producers Council (NPPC) has over 110,000 dues-paying, producer farm families in 38 member states. It is funded entirely by a voluntary checkoff program which collects two dimes per market hog at the market place. Producers who voluntarily participate number well over 200,000.

The goal of our relatively young organization is to improve the profitability of pork production. NPPC provides consumers with information concerning the nutrition and the economic value of pork and conducts research to improve the product for the consumer.

The majority of NPPC efforts in the information and promotion programs benefit consumers. We are constantly providing consumers with up-to-date information on the nutritional value of pork. Producers worked hard several years ago to have the studies undertaken to determine the nutritional composition of modern pork. I'm happy to report that those studies are completed and have been made generally available. The Council works hard at dispelling the outdated views of pork and wants consumers to know that pork from modern hogs is a highly nutritious, healthful food that is a good buy in the supermarket. This leads me to our concern in regard to food safety legislation.

NPPC recognizes that consumer confidence in the safety and wholesomeness of the food we produce is of paramount importance. For this reason, we have been actively involved in accomplishing and trying to achieve changes in our current food safety laws. We submitted a statement to the National Academy of Science and the National Research Council relative to the study that is being conducted into the scientific basis for the present meat and poultry inspection program. I request that our statement to the NAS/NRC be made a part of the record of this hearing.

Pork Producers have had firsthand experience with the application of the present law - an experience we can't afford to have again - from the mishandling of scientific data. There is no need to repeat the whole story of the Newberne report or the testing of nitrites for carcinogenicity, or the hasty, unwarranted actions taken by FDA and the USDA. Suffice it to say that various studies by private organizations of the Newberne report, which served as the basis for this cataclysmic announcement by the government agencies, revealed severe reservations about the report conclusions. Over the next two years, study after study of the Newberne report raised serious questions about its reliability as a basis for the announced need to discontinue the use of nitrites. Finally, on August 19, 1980, two years after the original announcement, the same agencies issued a statement based upon a comprehensive study by pathologists and a governmental committee of scientists, "that insufficient evidence exists to support a conclusion that nitrite induced cancer in rats based on the MIT (Newberne) study. As a result of the review and evaluation, we have concluded there is no basis for the FDA or USDA to initiate any action to remove nitrite from foods at this time.

During the two years that the cloud of carcinogenicity hovered over the cured meat products, especially bacon, the pork industry lost a billion or more dollars because of the depressing effect on the consumption of these pork products. It is impossible to determine accurately how much this unjustified cloud of carcinogenicity reduced the consumption of pork products. One estimate, which is easily understood, is that prior to the "cancer scare," pork bellies normally sold for between one and one-half and two times as much as live hogs. In other words, if hogs were bringing $40 per hundred weight "on the hoof," bellies would be selling for $60-$80 per hundred weight. For the two years while cured products were under suspicion because of the nitrite scare, they usually sold for the same price as live hogs, or sometimes less. During these years, 1978-1980, there were over 80 million hogs a year slaughtered.

It doesn't take a calculator or a Ph.D. in economics to understand what a tremendous financial loss our industry suffered because of this improper handling of one scientific report. Testing trials similar to the one conducted by Dr. Newberne are always in progress and the results are frequently being submitted to one of the federal agencies. How these results are reviewed and evaluated is of utmost importance, not only to pork producers but to all other food producers and processors.

We have been participating for several years with other farm, food, and agribusiness organizations in the development of revisions to our food safety laws. Although a "final" version has not been reviewed by our Council, we find that most of the thrust of the bills we have reviewed are consistent with our position on the changes needed in our food safety laws. NPPC has

had an ad hoc committee on food safety legislation for over three years. At our first meeting, we met with representatives of the FDA, the Food Safety Council, the American Meat Institute, and with former Congressman Wampler of Virginia, and Congressman Martin of North Carolina. We also met with members of Congressman Foley's staff while he was Chairman of the House Agriculture Committee. As a result of these deliberations and our continuing review of the issues, NPPC has had a position on food safety law changes for three years. The principle points of our policy are:

> The present body of food safety laws are outmoded, inflexible, inconsistent, and cause an erosion of consumer confidence in the safety of our food supply.
>
> The Delaney Clause of the Food, Drug and Cosmetic Act, and the Federal Meat and Poultry Inspection Act, needs amending to include consideration of both health benefits and health risks in food safety policy.
>
> Current food safety laws embody a no-risk policy. This no-risk policy cannot accommodate our nation's latest technology that can detect the most minute traces of substances. Nor does it permit the type of regulatory flexibility necessary to address the complex, scientific, economic, and political questions that inevitably arise in these situations. A concept of acceptable risk, based upon scientific proof, is needed.
>
> The following modifications to the food safety laws should be considered for the purpose of modernizing them and making them compatible with other existing health and safety laws.
>
> 1. The Food Safety Council (FSC), an independent organization of scientists, worked for several years to develop a procedure for evaluating the toxicity of substances. We are attaching to our statement a Safety Decision tree diagram developed by the FSC. The NPPC believes this scientific review process should be utilized by the responsible regulatory agencies in making toxicity judgment. We are submitting as a reference a diagram and request that this reference be made a part of the record of this hearing.*

* Proposed System for Food Safety Assessment. Final Report of Scientific Committee for the Food Safety Council - 1735 I St., NW, Washington, DC 20006.

2. A policy is needed to distinguish between food categories such as natural foods and added substances which will require different burdens for proof of safety for the different categories of food.

3. Policy is needed to preserve the concepts of GRAS (Generally Recognized as Safe) and prior sanctions provided in the present statutes.

4. The review and final determinations of safety should be made by a body of senior scientists from the regulatory agencies operating as a special board and their conclusions should be binding on the agency concerned.

5. Authority for phase-out or other flexible treatment of substances should be defined for appropriate use.

6. Economic impact statements on all affected aspects of the industry should be required before final regulatory decision.

A careful study of our policy and the S. 1938 reveals that most of these points have been reflected in this bill. We can therefore endorse this bill in general, but we want to recommend certain amendments.

In the rest of my testimony, I will discuss in more detail, our recommendation to make this bill more consistent with our policy.

Although NPPC has not advocated the adoption of a definition of "safe," we recognize that this may be the best way to integrate an element of reason in the administration or interpretation of our food safety laws. The definition suggested by the bill seems to dispel the idea of absolute safety or no risk. We believe this is an important first step in achieving more acceptable food safety decisions. Whether or not this bill's definition of safe is the best that can be written, is not as important as to recognize that a definition of "safe" is necessary and certainly conforms to our statement of policy on the changes needed in the Delaney Clause and the present statutes.

In the same connection, we believe that the modification of the Delaney Clause as provided for in this bill is desirable and supportable. NPPC especially recognizes the desirability of the modifications pertaining to the so-called DES proviso. We have long known that the ability to detect has far exceeded our ability to interpret the significance of the minute amounts that can now be detected. Also, the recognition of the effect of the metabolism of chemical substances in the animal's body is an important acknowledgement that must be considered in the total

evaluation of the presence of carcinogenic substances in animal feed. Another especially important part of the report pertaining to the Delaney Clause and the use of animal drugs is the "no residue -- presenting a significant risk to human health will be found." This phrase will be helpful to the agencies in implementing the Delaney Clause as it relates to animal drugs. The additional qualifications suggested as being pertinent in the evaluation of possibly carcinogenic substances are positive interpretations and should be included in any revision of the Delaney Clause.

NPPC notes with approval, too, the Section 102 pertaining to "phase out" authority. We believe the provisions for phasing out the use of a substance are reasonable. At the same time, the provisions to protect the public from risks are adequate.

Section 104 provides for consideration of health benefits in making food safety decisions.

The nitrite case was a perfect example of the need for this provision. You will recall that the nitrite in the meats provided protection from the deadly poison botulism. The Food and Drug Commission recognized the need for this protection and proposed a phase out for this very reason. But, the Justice Department did not agree that authority existed under the present statutes and amendments to phase out the use of a suspected carcinogen.

At that time, the Commissioner of the FDA said it would be an irresponsible act to ban the use of nitrite unless there was an alternative way to provide the botulism protection which nitrites provided for cured meats.

Therefore, we can heartily endorse this provision of the bill before us today.

We are pleased to see that Section 105 recognizes the need for scientific reviews by peer scientists on questions of food safety. We endorse the incorporation of this requirement in the revised statute. We cannot, however, concur in the proposed plans for the utilization of these scientific reviewers. We do believe there can be merit in the utilization of scientists outside of the government as ad hoc advisors early in the scientific evaluation process. These provisions should be as informal as necessary to achieve what is really sought - qualified scientific advice on basic questions - to assist the regulatory scientists in arriving at a safety conclusion. This availability of well-qualified scientists to the "working level" agency scientist will be useful and valuable in making scientific judgments which are obscure and require the greatest possible scientific competency.

However, we want to emphasize that for scientific peer review to be useful, it must be readily available on an ad hoc basis. It must be under minimal administrative clearances or the "trouble" connected with the use of these outside scientists will discourage their use.

NPPC seriously questions the value of a standing advisory committee of outside scientists. Standing advisory committees employed by both FDA and USDA over the years have proven of no detectable value. Some committees which include non-scientific members are mandated by law and will no doubt be continued, but should not be looked to for any scientific assistance in resolving difficult food safety questions. The amount of time that such busy people can allocate to the question presented, their lack of experience with the regulatory procedure, and "political" pressures raises serious questions about their ability to resolve truly scientific questions.

NPPC recommends that an interagency committee, council, or board composed of one senior scientist from each agency be established. The agencies would include, at least, the Food and Drug Administration, the USDA, the Environmental Protection Agency, the Occupational Safety and Health Administration, the Consumer Product Safety Commission, and the National Cancer Institute. Each senior scientist should be given a small staff and devote his or her full attention to this interagency council. We believe there are well-qualified, experienced scientists in each agency who would welcome this opportunity. With this type of interagency, government-wide scientific board, we would take a major step toward establishing reasonable, practical and enforceable regulations under any law. It would also provide for uniformity between government agencies in regulation substances in our water, food, and environment. NPPC believes that such a group of senior scientists from the agencies' career service could better constitute the "Standing Committee" referred to in the Working Group's report.

The Working Group on Nitrites is an excellent example of how such a committee might function. If the nitrite carcinogenicity question had been referred to this group before conclusions were drawn from the Newberne report, the whole nitrite debacle could have been averted.

We also suggest that the final recommendations of the "Standing Committee" if it is constituted as we have recommended, be binding on the agencies.

With reference to indirect additives which are the subject of Section 106 of the proposed bill, we can support these provisions if residues of drugs fed to animals are classified as indirect additives. These residues, which may be present in food from animals administered drugs, have been generally considered to be indirect additives. Even though the way in which they become part of food is different from packaging materials and processing equipment, they are truly indirect in that the drug as chemical is given to the living animal. If there are residues they have certainly gotten there indirectly by the animals assimilation and metabolism of the substance given to the animal.

The provisions of Section 106 providing for taking into account "relevant factors including levels of human exposure to the substance (based upon a meaningful projection from reliable data) under its intended conditions of use of the substance and the toxicological characteristics of the substance" are directly

applicable to drug residues. We, therefore, urge that animal drugs be included in standards for determining whether an intended use of a substance will deem it to be a food additive.

Mr. Chairman, this completes our testimony. Thank you for the opportunity to present our views on this vital issue.

Respectfully submitted,

NATIONAL PORK PRODUCERS COUNCIL

STATEMENT OF MARSHALL KING, DISTRICT DIRECTOR, IOWA CATTLEMEN'S ASSOCIATION

Mr. KING. Thank you, Senator.

My name is Marshall King. My son and I operate King Farms near Boone in central Iowa. Our farming operation consists primarily of crop production, cattle feeding, and cow/calf enterprises. I am currently on the board of directors of the Iowa Cattlemen's Association and serve as chairman of that organizations Grading and Inspection Committee. Today I will be speaking on behalf of the nearly 15,000 members of the Iowa Cattlemen's Association.

Let's look first at the reason why the purity and virtue of our food supply is suspect by so many people. First, food supply is business, an enormous business, and we all know that the business community is mistrusted by many people. It always has been, and the mistrust is probably stronger today.

Second, food occupies a special place in our lives. It is both a biological necessity and a social activity, imposing a heavy load of emotional involvement, beginning in infancy.

Third, our food is often grown hundreds or thousands of miles from where it is consumed. In order to assure a continuing supply of wholesome food of uniform quality for the world's population, most foodstuffs travel thousands of miles and are stored for long periods of time. How this is possible is a mystery to many.

Also, most food is processed by people and equipment we never see. The fact that today's food is cleaner, safer, more varied, and proportionately cheaper than ever before still doesn't inspire the confidence in our food supply that at one time came from personal involvement.

The emotion arising from these facts has led to organized consumer efforts questioning the safety of our food supply. In virtually everything we see or do, we need a sense of perspective. This need is particularly true in coping with food hazards. Without perspective, we will concentrate on the trivial and miss the significant.

Food safety misunderstandings have resulted in consumerproducer conflicts and confrontations. Yet, food producers have a large concern about the safety of the products they produce. First, they work with the products used in livestock and crop production daily. Second, their families consume the products they produce. Third, and most importantly, producers must have consumer confidence in their products if there is to be a market for those products.

Let us now get more specific and address concerns of the meat industry. In so doing, two areas come to mind. The first is meat inspection.

Beef producers support stringent meat inspection standards for product wholesomeness. Consumers must have the assurance that the products they purchase have been inspected and have been processed within accepted guidelines. If this does not occur, then beef producers will be the big losers as consumers purchase other products in which they have more confidence.

Recent publicity about the Cattle King incident has been damaging. Matters of this type need to be disposed of with expediency. If a violation occurs, the process must mandate that the situation be immediately rectified. Publicity arising from a long, drawn-out process influences the thinking of consumers towards the entire meat industry, even when 99.9 percent of the slaughtering and processing facilities are meeting inspection standards.

The second area of concern relates to additives. Feed additives are primarily used to enhance the growth rate, feed efficiency and overall health of livestock. Feed additives include nutrient supplements, antibiotics, and other growth-promoting substances. Although the use of antibiotics and growth stimulants is controversial, persons who oppose their use cite only potential problems, not documented problems. Food additives are used to maintain nutritional value, enhance sensory quality, reduce wastage, enhance consumer acceptability, improve keeping quality, make the food more readily available, or facilitate preparation of food. The Food and Drug Administration approves only feed and food additives that are proven to be safe and serve one or more purposes. A recent survey conducted by the National Cattlemen's Association shows that it takes an average of 8½ years of research to gain Food and Drug Administration's approval of a new drug added to cattle feed.

It is the observation of the Iowa Cattlemen's Association that in recent years more feed and food additives have been banned than have been licensed. Why has this occurred? The Delaney clause seems to come to the forefront. The goal of sound food safety policy should be to minimize risks to health from foods, without unreasonably compromising availability, quality and variety. Residue testing will continue to evolve more precise techniques for measuring biological effects of substances. Formerly undetectable residues are now being found in minute traces. This technological advancement will continue and more feed and food additives will come under attack. A decade ago parts per million were commonly reported, while today parts per billion are detected, and in the future scientific advancement will perhaps allow for the detection of parts per trillion.

The inflexibility of the Delaney clause, with its zero tolerance interpretation, is limiting the use of some very valuable additives for both producers and consumers.

The Delaney clause should be made more flexible before it breaks. With the sophistication we have available today in residue detection, and a promise of even further refinement in the future, is it practical that we should still be operating under the zero tolerance level?

The public has been misled into believing that we can have all the benefits of an abundant, tasty, and nutritious food supply without any element of risk. This is an ideal goal, but unachievable. A more rational, scientifically sound aim is to provide an abundant, attractive, nutritious food supply with the greatest benefit and the lowest risk, measured by every reasonable method. Food safety decisions should be made in an arena where science, judgment, and public benefit can be intermixed to the benefit of all.

Nitrites are commonly used as a curing agent and preservative in cured meats. If nitrites were banned, as was proposed, the familiar hot dogs, bologna, lunch meats, corned beef and other sausage foods that we all grew up with would either cease to exist or would be dramatically changed in both flavor and appearance. To farmers, this means 67 percent of all pork would be affected, and about 10 percent of all beef. Hundreds of thousands of producers would be affected. However, economics alone cannot be the reason for keeping something in the food supply if it is harmful to health. Farmers and beef producers acknowledge that fact.

Nitrites have been used for about 2,000 years. A fairly recent study at the Massachusetts Institute of Technology found that cancer-susceptible rats, fed large amounts of nitrite, developed tumors of the lymph system. While 12.5 percent of the rats fed large amounts of nitrite developed lymph tumors, 8.4 percent not fed nitrite developed similar tumors. Still, the Government is required to take action when a substance that's added to food is found to cause cancer in experimental animals, even though humans could not consume that high a level of nitrites from food, and there may not be correlation between laboratory animals and humans.

Let's look at the economic implications of a nitrite ban on the beef industry. If no substitutes were developed, the 10 percent of the beef supply used for processed meats would be eliminated. A recent study conducted for the Iowa Cattlemen's Association by Iowa State University indicates that a 10-percent decline in Iowa cattle feeding costs the State of Iowa $1 billion of economic activity, and a loss of 8,500 jobs.

Food safety laws have a dramatic impact on our economy. If hazards exist, the economic loss is justified. However, if decisions are made because of an outdated, inflexible rule that does not consider the cost/benefit risk of such decisions, the consuming and producing sectors of the United States are both led astray.

The Iowa Cattlemen's Association supports amending the Delaney clause because it is now recognized as being illogical and overly restricted in regard to our food safety laws. Benefit/risk assessment must be taken into consideration when adopting statutes and regulations for the food industry.

Thank you for allowing us to express our views.

Senator GRASSLEY. Thank you.

STATEMENT OF JAMES RYAN, JR., PRESIDENT, IOWA PORK PRODUCERS ASSOCIATION

Mr. RYAN. Thank you, Senator Grassley.

My name is James Ryan, and I am a pork producer from Ryan, IA. Our family farms 840 acres and produces over 4,800 hogs annually. As president of the Iowa Pork Producers Association, I am here today representing more than 30,000 producer members statewide. On behalf of the association we appreciate the opportunity to comment on Senate bill 1938, food safety legislation in general, and offer our views for your consideration.

Iowa Pork Producers have a keen memory of our experience with the current food safety law and the actions of the FDA and the USDA on the Newberne report of 1978. Earlier this afternoon the National Pork Producers Council documented the more than $1 billion loss to the pork industry. I will simply point out over 25 percent of the Nation's pork supply comes from this State, and over $250 million was lost at the expense of Iowa pork producers in the nitrite debacle. We cannot afford a similar experience, nor can any industry, based on the unwarranted attack of insufficient evidence.

Although the United States has the world's safest, most wholesome, and abundant food supply, there is a perception among a considerable number of Americans that much in our food supply is dangerous to the public health. The public's apprehension has been bolstered by periodic, highly publicized episodes during the past 20 years in which various foods and food ingredients have been implicated, such as nitrites.

What these really point out, after close examination of the facts, is the present body of food safety laws are outmoded, inflexible, inconsistent, and cause an erosion of consumer confidence. Our association feels, in rewriting food safety laws:

First, legislation should include a definition of "safe" that would alter the present zero-risk policy in regard to foods, including the Delaney clause. With the development of technical hardware that can detect one part per billion and beyond, it can almost be proven nothing is absolutely pure and no commodity, including drinking water, has a zero risk.

Second, the review and final determination of safety for controversial substances should be made by a body of senior scientists from the regulatory agencies operating as a special board. Their conclusions should be binding on the agency concerned.

Third, the economic impact on all segments of the industry should be required, and the benefits and risks considered before final regulatory decisions are made. In the case of nitrites, the effect of removing them from products and the public's susceptibility to botulism wasn't even considered. The economic impact on the industry and the associated impact of removal of these substances should be considered for the public's benefit.

Finally, I would like to express that as producers we are consumers, too. The health and well-being of our families as the biggest consumers of our own products is our most important interest. When your family operation has been affected to the degree pork producers have, only to have it proven later to be unwarranted, you seriously doubt the validity of future reports from these same agencies.

In reviewing Senate bill 1938 most of our points are reflected in this bill. While there are certain amendments we would like to see,

we can endorse this legislation in general and feel it takes a significant step in the right direction.

Thank you, Mr. Chairman, for allowing me the opportunity to present the feelings of Iowa pork producers on this important issue.

Senator GRASSLEY. Thank you all.

I guess I would use as a highlight one of the things that made me feel positive, that you all emphasized, which is the last sentence of Mr. Ryan's—or I shouldn't say the last sentence, but in the last paragraph: "Finally, I'd like to express that as producers we're also consumers."

That seems to be the difficult problem we have, that, somehow, producers versus consumers, in Washington. That's sort of the big-business-versus-little-business syndrome, and that's what we're fighting as we try to bring a rational approach to changing the Delaney legislation.

I would like to say also to Chuck that we appreciate your suggestions for changes in the legislation and your recommendations for improvement, and I will take those back to Washington. We may have had them suggested by other people as well, but I can't say for certain.

So we will take those back and try to get some of those adopted.

I would like to tighten up this legislation to accomplish some of the things you want to do, but I think we have to be perfectly candid. As much as I agree with you, it's going to be a tough job trying to accomplish that. In Congress, it's been difficult to get attention even to moderate suggestions for change in S. 1938 and, of course, that's why we're having this hearing, hopefully to drive home through the record the point that we need some changes in this. And of course I hope this will add some fire to the debate that's going on there and, in the process, not only change it, but also maybe I ought to say, even more importantly, get something passed that's going to prove successful.

I don't have any additional questions. I think that the questions I have asked other people, we've handled well enough, and if there are any that I should ask you, I can submit them to you in writing, or to your staffs, and get responses back.

We're 20 minutes overdue. I want to thank everybody for testifying.

I have a statement in the way of closing that I'm going to submit for the record, and I won't bother to read it at this point.

[Material referred to follows:]

CLOSING REMARKS BY SENATOR GRASSLEY

Senator GRASSLEY. Again, I would like to thank everyone for participating in this hearing today. I think we have established a sound record today that will help bring the real world to Washington, DC. They need to know what our laws do to people's lives. They need to hear from the consumers, producers, employees, and processors of the real world.

I would like to close by reminding everyone that cancer is a deadly, dreadful disease. We in Congress have a responsibility to assure that our food supply remain the safest and most wholesome in the world. This is a solemn responsibility that I never will

forget. It is unfortunate that sometimes people from other parts of the country forget that producers, processors, and others are consumers—consumers with families that they want protected from harm. These are consumers who care not only for the well-being of their own, but that of everyone else who consumes the fruits of our labor. Every one of our witness is a consumer as well.

Too often the food-safety issue is distorted and misunderstood by outsiders as a fight against big, cold business versus consumers. This of course, is not the case. As we have seen today, this is a matter of concern for every family farmer, family processor, and others who depend upon agriculture.

Nevertheless, because of this misconception, some might be concerned that attention to the economics of this issue will perpetuate this myth. I disagree, as I know others here today share my feelings. Because the economy is so affected by the laws and regulations we pass in Washington, anymore, each bill is required to contain an economic impact statement so Congress can avoid making decisions adverse to the people of our country. We ought to be able to scrutinize existing laws the same way.

I do not mean by this that I think we should have standards that would allow a dangerous food additive to remain on the market just because its removal would cost our economy. I do believe, however, that if something is found to be harmful, that flexibility to phase it out is given to help minimize the impact. As long as people are informed about the risk involved, they can be protected.

I like to use the following analogy to attempt to place in perspective this debate over food safety and to also help explain why we should be concerned about the disruptive impact these laws can have on our people. If laws as rigid as our food safety laws were applied to highway safety, we would have a law that stated if one death occurred as a result of a highway accident, all vehicles would be banned. If you apply the irony of our food safety laws that deal with additives, such as that applied during the nitrite fiasco, since only about 9 percent of our nitrites come from cured meats, our highway safety law would require only one model of automobile to be banned from the highways. We would not be any safer, some of the activists would only lead you to believe so.

Again, I thank you for your participation and look forward to your continued assistance as we proceed in Washington toward a more modern food safety law.

Thanks to you all for helping make this record as good as it is, and the hearing is adjourned.

[Whereupon, at 4:50 p.m., the hearing was adjourned.]

○